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RELIEF OF PULMONARY HYPERTENSIVE PAIN AFTER MITRAL COMMISSUROTOMY*

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THE similarity of chest pain associated with pulmonary hypertension and that of coronary-artery disease was stressed by Viar and Harrison[1] in their excellent monograph. They suggested the term "pulmonary hypertensive pain" and pointed out that it may resemble angina pectoris subjectively in almost every detail. The location is precordial or substernal, but other areas of the thorax may be involved, anteriorly or posteriorly. Radiation when present frequently extends to the left shoulder and arm. The intensity of the pain varies from mild to quite severe. Like angina, the pain with pulmonary hypertension may be precipitated by physical exertion or emotional tension, but on the other hand a minority of episodes may have their onset while the patient is at rest. The pain is frequently associated with dyspnea and often accentuated by respiration, findings that are less common with the pain of coronary thrombosis. The duration of pain may vary considerably — that is, from several minutes to weeks or months, and to the extent that all phases of coronary insufficiency or myocardial infarction, or both, may be simulated. The electrocardiogram in some cases shows either T-wave changes or RST changes, or both.

A patient may present a history that seems classic for coronary thrombosis or even acute myocardial infarction. It is at this point that careful objective studies must be instituted. A trial of nitroglycerin should prove invaluable in this differential diagnosis. As Viar and Harrison emphasized, one must be extremely cautious in making the diagnosis of angina in the absence of dramatic relief of pain by nitroglycerin. With the pain of pulmonary hypertension, on the other hand, nitroglycerin may afford partial or equivocal relief but more frequently is of no benefit. Even the partial relief is inconsistent in subsequent attacks, and the patient rapidly becomes completely refractory to this drug. Some patients demonstrate a varying degree of cyanosis, which may be persistent or only temporary during the episodes of pain. This was probably the basis for the earlier terminology of hypercyanotic angina.[2] It indicates a general anoxemia, which led some observers to propose that this lack of oxygen is at least partially responsible for the pain. This is somewhat substantiated by the fact that pulmonary hypertensive pain is often relieved by higher concentrations of oxygen, particularly in patients in whom cyanosis is noted. A detailed examination of the nail beds, lips and ear lobes may reveal various degrees of cyanosis, particularly if the patient is in the midst of an episode of pain. Furthermore, cough is often present in patients with the pain of pulmonary hypertension.

As pointed out by Viar and Harrison,[1] the presence of a condition that is associated with increased pressure in the pulmonary circuit, such as one of the following, is essential for production of the pain of pulmonary hypertension: lesions of the mitral valve, most commonly stenosis; congenital heart lesions, such as defect of the atrial septum, Eisenmenger's complex and patent ductus arteriosus; primary diffuse disorders of the lung, such as asthma, emphysema and bronchiectasis; and disorders of the pulmonary artery, such as embolism. It is therefore most important in diagnosis first to recognize a condition that is capable of causing pulmonary hypertension.

This report served as a stimulus to us to be on the lookout for such cases. In fact, we remembered a patient with mitral stenosis in whom an additional diagnosis of coronary-artery disease had been made.

CASE REPORT

A 50-year-old woman was first seen 4 months before admission to the hospital for evaluation for mitral-valve surgery. At that time she complained of severe precordial pain, which had been present for approximately 12 hours. This pain had radiated to the left shoulder and down the left arm. It was not relieved by nitroglycerin, but some relief had been obtained by the injection of Demerol. At that time a diagnosis was made of rheumatic heart disease with mitral stenosis, mitral insufficiency, pulmonary insufficiency, auricular fibrillation and cardiac decompensation. Electrocardiograms (Fig. 1*A*) revealed incomplete right-bundle-branch block and also changes that were consistent with myocardial ischemia. Because of the history of precordial pain and electrocardiographic changes, cardiac surgery was not advised, and she was referred back to her family physician with the recommendation that she be treated to rule out

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an acute myocardial infarction with the possibility that coronary insufficiency without definite myocardial changes had taken place. (At that time the diagnosis of pain from pulmonary hypertension was not entertained simply because of the lack of familiarity with this syndrome; on a review of the case in retrospect, however, such a diagnosis was thought to be a strong possibility.)

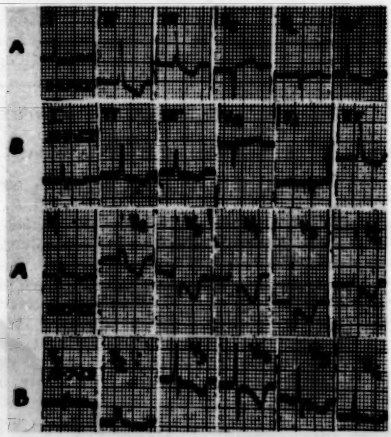

FIGURE 1. *Electrocardiographic Tracings in a Patient with a Fifteen-Year History of Frequent Episodes of Precordial Pain.*
A = *tracings taken when the pain had been present for twelve hours. Note incomplete right-bundle-branch block, depressed ST segments and inverted T waves.*
B = *tracings made four months later. There is less depression of the ST segments.*

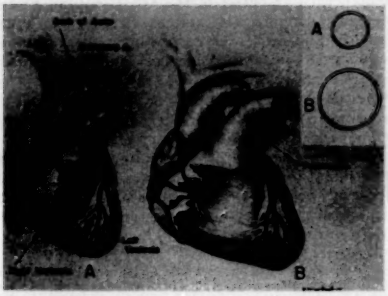

FIGURE 2. *Comparison between Artist's Conception of the Normal Heart and Great Vessels* (A) *and the Patient's as Seen at Operation* (B).
Note cardiomegaly and marked dilatation of the pulmonary artery. Insert shows comparative cross sections of the normal (A) *and patient's pulmonary artery* (B).

Four months later she was admitted to Georgetown University Hospital for a complete evaluation for mitral commissurotomy. At this time it was learned that 35 years previously she had had an attack of acute rheumatic fever. She then remained asymptomatic for 5 years, when a sudden attack of dyspnea was noted during the post-partum period of her 1st pregnancy; she was told that she had had a "heart attack." Thereafter she had frequent episodes of syncope and dizziness. Twenty-five years before admission the first attack of substernal pain was noted. It was precipitated by exercise and quickly relieved by nitroglycerin. At that time she was digitalized and had remained on this medication. Since then she had had frequent episodes of substernal pain, with occasional radiation to the left shoulder and down the left arm. These attacks became progressively refractory to nitroglycerin, and injections of Demerol or morphine were required for relief. For the past 20 years, besides frequent attacks of substernal pain, she had had associated dyspnea on exertion as well as at rest, orthopnea and paroxysmal nocturnal dyspnea. During this period she was admitted to 5 different hospitals with a similar diagnosis of "heart attack." Seven years before the present admission she was hospitalized because of fever and the diagnosis of recurrent acute rheumatic fever was made. For the next 5 years she required an average of 160 mg. of morphine sulfate each week. She then became refractory to morphine, and for the past 2 years had required 1500 mg. of Demerol each week in an effort to control the precordial pain. Also, during the 2 years before admission, she had had occasional episodes of hemoptysis. In addition to the morphine, Demerol and digitalis she had been on a salt-restricted diet and had required mercurial injections for the edema as often as twice a week.

FIGURE 3. *Preoperative Film, Showing Cardiomegaly, with Striking Accentuation of the Pulmonary-Artery Segment.*
Some pulmonary congestion is present bilaterally, particularly at the right base.

Physical examination revealed a chronically ill woman in the orthopneic position, but in no acute distress. The skin was of a generalized and slightly dusky appearance, with moderate cyanosis of the lips. The neck veins were not distended. The lungs were clear to auscultation, and a slight dullness was noted on percussion at the right base. The border of cardiac dullness extended to the left anterior axillary line. The rhythm was grossly irregular. At the apex the 1st sound was accentuated, and there was a Grade 2 systolic murmur. A prominent opening snap of mitral stenosis was present and followed by a Grade 4 rumbling diastolic murmur filling all of diastole except presystole. The pulmonic 2d sound was accentuated. Along the 3d left sternal border a Grade 3, blowing diastolic murmur, thought to be a Graham-Steell murmur, was noted. The liver edge was palpable 3 or 4 fingerbreadths below the right costal margin, and the tip

of the spleen was barely felt. There was + ankle and pretibial edema bilaterally.

The temperature was 98°F., the pulse 82 and irregular, and the respirations 20. The blood pressure was 134/80.

An electrocardiogram (Fig. 1*B*) revealed incomplete right-bundle-branch block, with myocardial changes and digitalis effect. On comparison with tracings taken 4 months previously the ST segments and T waves showed less depression.

The patient continued to have severe precordial pains varying in frequency, intensity and duration. On several occasions intravenous injection of morphine was necessary. In fact, the diagnosis of morphine and Demerol addiction was considered by several of the hospital personnel.

On re-evaluation of the symptoms in light of pain of pulmonary hypertension the case appeared to fit well into this classification. Because of this, mitral-valve surgery was then advised. At operation a tight mitral stenosis was found, and the mitral valve was successfully opened. The pulmonary artery was even larger than we had anticipated, being enormous. It was dilated at least 3 or 4 times normal (Fig. 2).

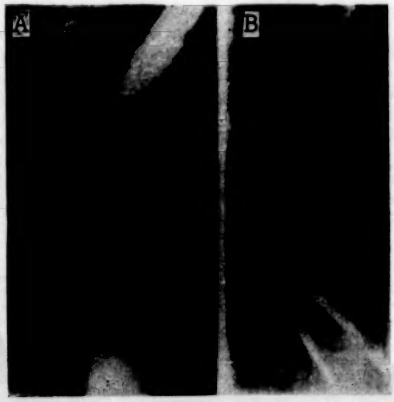

FIGURE 4. *Barium-Swallow Examination Showing the Enlarged Left Atrium before* (A) *and after* (B) *Mitral Commissurotomy (Note Definite Decrease in Size).*

The postoperative course was uneventful, but the striking fact was the immediate and dramatic relief of the precordial pain that had been present daily for the preceding 15 years.

X-ray and fluoroscopic examinations of the heart and lungs on admission (Fig. 3) had shown cardiac enlargement, marked accentuation of the pulmonary-artery segment and striking enlargement of the left atrium (Fig. 4*A*). A slight degree of pulmonary congestion bilaterally was noted, especially at the bases. After mitral commissurotomy there was a decrease in the size of the pulmonary artery and left atrium (Fig. 4*B* and Fig. 5). Postoperative electrocardiograms (Fig. 6) revealed no significant change from the preoperative tracings.

Before operation the venous pressure was equivalent to 200 mm. of water, with a rise to 230 mm. on right-upper-quadrant pressure. After operation the venous pressure was equivalent to 138 mm. of water, with no rise on right-upper-quadrant pressure. Circulation time, arm-to-tongue (Decholin) method, was 35 seconds before and 20 seconds after operation. The murmurs likewise showed a striking decrease in intensity. The diastolic rumble of mitral stenosis was reduced from Grade 4 to Grade 2, and the Graham-Steell murmur of pulmonary insufficiency became a faint Grade 1, as compared with a former Grade 3.

Five months later the patient had had no recurrence of this type of pain. As a result no medication was required for the pain, which had previously been incapacitating. Clinical improvement was remarkable. The patient was able to do housework and had recently been employed in a restaurant as a cashier. She appeared 15 years younger and had gained about 15 pounds of solid flesh. Her state of cardiac compensation had also markedly improved. Mercurial injections were rarely required, in spite of increased activity; instead of several a week as before operation she required only one at intervals of 4 to 6 weeks. In contrast to the preoperative state of incapacitation because of precordial pain and chronic cardiac decompensation, she had returned to a useful and active life.

FIGURE 5. *X-ray Film of the Heart after Operation. Note the slight decrease in heart size. The pulmonary-artery segment, although smaller, is still prominent.*

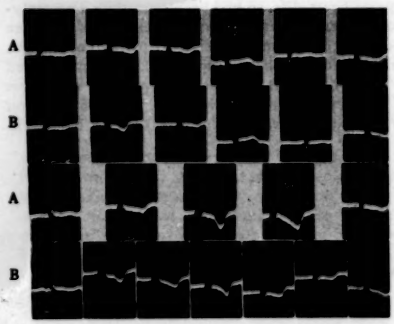

FIGURE 6. *Electrocardiograms after Operation* (B), *Showing No Significant Change from Those before Operation* (A).

Discussion

The cases reported by Viar and Harrison[1] were diagnosed on clinical evidence as outlined, and some were studied post mortem. None were studied both before and after correction of the underlying pulmonary hypertension. From the results of the operation in the case presented above, it appears that the patient offers actual living support of the theory of pain from pulmonary hypertension as an entity and also provides evidence that increased pressure in the pulmonary circuit, producing distention of the pulmonary artery, is responsible for the pain.[1, 3] Direct measurements of the pulmonary-artery pressure were not performed. However, the combination of the findings at operation, the known increase in pulmonary hypertension with cases of mitral stenosis and the subsequent decrease in pressure, as well as the striking clinical improvement after mitral commissurotomy, seem fairly conclusive. One cannot be absolutely sure that some coexistent coronary-artery disease was not present in this case. However, the dramatic disappearance of pain after commissurotomy suggests that pulmonary hypertension was the major if not the entire underlying factor. It should also be emphasized that these cases, which simulate coronary-artery disease, are much more common than is generally realized. The case presented above was first erroneously diagnosed as primarily pain of coronary-artery disease and only after a reading of the published article on pain of pulmonary hypertension was the true diagnosis suspected. In fact, another patient on the wards of Georgetown University Hospital at the same time as the one described above had a previous diagnosis of angina pectoris on the basis of coronary-artery disease. No other type of heart disease had been detected. This sixty-year-old woman had a two-year history of dyspnea and chest pain unresponsive to nitroglycerin. An x-ray examination of the chest was interpreted by some observers as showing a possible aneurysm of the left ventricle. However, on re-evaluation on cardiac fluoroscopy this was seen to be an enlarged pulmonary artery. Careful auscultation of the heart revealed a well localized diastolic rumble of mitral stenosis, and this was substantiated by the detection of calcium in the region of the mitral valve on fluoroscopy. It was believed that this was an additional case of pulmonary hypertensive pain.

Summary

A case of a woman with mitral stenosis who was incapacitated because of precordial pain simulating that of coronary disease and present daily for at least fifteen years is reported. Morphine and Demerol had been required to such an extent for relief that some observers thought that the patient was an addict.

After successful operation on the mitral valve there was an immediate and dramatic relief of pain, and follow-up examination after five months revealed that the patient was free of this pain, which had incapacitated her before operation. She appears to be proof of the validity of pulmonary hypertensive pain as an entity, and this case offers strong evidence that the etiology of the pain is related to increased pressure in the pulmonary circuit.

Addendum

An additional five months' follow-up study of this patient has shown continued over-all improvement. She has been able to carry on gainful employment in a restaurant. However, coincident with deviations from her salt-restricted diet and medical management, retention of edema fluid results. When approximately 10 pounds of edema accumulates, the pain of pulmonary hypertension has recurred, and subsided promptly on diuretics and the usual medical care. She is entirely free of pain when her chronic cardiac decompensation is controlled.

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CESAREAN SECTIONS AT THE BETH ISRAEL HOSPITAL, 1950-1953*

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ON March 1, 1953, the Obstetrical Service of the Beth Israel Hospital had been in operation for three years. It was thought that sufficient cases had been accumulated to be statistically significant and to warrant critical analysis. With this purpose in mind, the present study of cesarean sections performed during this period was undertaken. Because some of the results are of interest, publication of the findings seems warranted.

MATERIAL

In the period from March 1, 1950, to March 1, 1953, there was a total of 5871 deliveries producing 5950 infants. Seven hundred and eighty-nine were ward, and 5082 were private cases. There were 399 cesarean sections (6.7 per cent), of which 39 (4.9 per cent) were ward and 360 (7.0 per cent) private cases.

INDICATIONS

The indications for the operation were distributed as shown in Table 1. In 184 cases (46.1 per cent) repeat section was the indication for the operation. This is approximately twice the percentage reported by Kistner,[1] Harris et al.[2] and others.[3, 4] Excluding these cases, the primary section rate resolves to 3.6 per cent.

Sixty-two sections (15.5 per cent) were done for cephalopelvic disproportion. All these patients had had a trial of labor, and most had had x-ray pelvimetry before or during labor.

Premature separation of the normally implanted placenta accounted for 27 cases (6.8 per cent). It is interesting that this relatively high figure is due to the fact that conservative therapy in abruptio placentae, as advocated by Irving[5] and others,[6-8] is not generally practiced by members of the staff.

Twenty-four sections (6.0 per cent) were performed for abnormal presentations. This classification includes only transverse presentation and primiparous breech, mostly the latter. X-ray pelvimetry is done on all primiparous breeches. If the pelvis is adequate, with good labor and steady progress, vaginal delivery is anticipated. However, if the pelvis is small or if labor is poor, or if there is lack of progress, we do not hesitate to do a section. At present a statistical study of breech deliveries is in progress. Our rate of cesarean section because of breech presentation in primiparas is higher than that reported by many other clinics; the fetal mortality, however, is much lower. Thus, we consider our higher rate justified. No sections were done for either brow or face presentations.

In 19 patients (4.7 per cent) with toxemia, the pregnancy was terminated by cesarean section. About a third were performed only after rupture of the membranes and stimulation with Pitocin had failed to initiate labor. In the other two thirds the cervix was unfavorable, and elective section was done.

In the past fifteen years age in the primipara has become an important factor in elective cesarean section. D'Esopo[9] has stated that approximately 50 per cent of primiparas over the age of forty are delivered by section. This high rate seems justified when one considers that the gross fetal mortality in patients under forty is almost twice that in primiparas over forty years of age. The high rate, therefore, seems to have its compensations in saving more babies in a group of women to whom a fetal loss is often an irreparable tragedy. There were 11 cases (2.7 per cent) in which section was performed on elderly primiparas. The ages ranged between thirty-five and forty-two years.

Fetal distress as an indication for section is evaluated individually by each member of the staff. Usually, there is some associated indication for operation. In general our criteria for fetal distress include a fetal heart rate of under 100 or over 180, with or without regular rhythm, and with or without the passage of thick meconium in vertex presentations. There were 10 (2.5 per cent) cases in this group, and there was no fetal mortality.

Uterine inertia accounted for 18 cases (4.7 per cent) and was associated with occiput posterior positions, breech presentations and fetal distress. There was 1 fetal death in this group, and this is commented on below.

TABLE 1. *Indications for Cesarean Section.*

INDICATION	NO. OF CASES	PERCENTAGE
Repeat section	184	46.1
Cephalopelvic disproportion	62	15.5
Premature separation of placenta (abruptio placentae)	27	6.8
Abnormal presentation	24	6.0
Placenta praevia	23	5.7
Toxemia	19	4.7
Uterine inertia	18	4.5
Elderly primipara	11	2.7
Fetal distress	10	2.7
Other	21	5.3

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Type of Operation

The types of operation were as follows: Kerr procedure, 326 cases; Kroenig procedure, 56 cases; classic section, 7 cases; extraperitoneal section, 6 cases; and cesarean section combined with hysterectomy, 4 cases. It is interesting that the extraperitoneal sections were done mainly for teaching purposes. The cesarean hysterectomies were performed for multiple fibroids in 2 cases, in 1 for placenta accreta and in the other for uncontrollable immediate postoperative hemorrhage.

Anesthesia

In the past fifteen years, there has been a marked trend from general to regional anesthesia. This is especially true for cesarean sections. Spinal anesthesia was used in 88.5 per cent of the cases. Of the remaining cases only 2 were performed with local infiltration; the rest were done with inhalation of nitrous oxide, oxygen and ether or cyclopropane. There were no serious complications that could be attributed to the anesthesia.

Maternal Morbidity

Our criterion for morbidity is a temperature of 100.4°F. on any two consecutive days, eliminating the first post-partum or postoperative day. There were 19 morbid cases — a rate of 4.7 per cent. Six of these followed repeat sections. This low morbidity is believed to be due to three factors: the low cervical sections, antibiotics, which were used in over 70 per cent of patients, and, lastly, the fact that patients were seldom allowed a test of labor lasting over twenty-four hours.

Table 2. *Fetal Deaths in Cesarean Sections.*

Hospital No.	Age of Mother	Gravidity	Parity	Indication for Section	Infant Weight	Stage of Pregnancy	Cause of Death
	yr.				lb. oz.	wk.	
19617	24	1	0	Cephalopelvic disproportion	7 14	40	Congenital heart disease
27306	40	3	1	Repeat section	7 5½	38	Three loops of umbilical cord; atelectasis.
38694	24	1	0	Uterine inertia	8 2¾	40	Bilateral atelectasis
36097	24	1	0	Premature separation of placenta	5 4	7	Stillbirth
14158	40	1	0	Placenta praevia	4 12	33	Cause unknown
34179	27	2	1	Placenta praevia	4 13½	33	Multiple congenital anomalies
33630	35	2	0	Placenta praevia	4 11	32	Prematurity
30096	29	3	2	Repeat section	3 11	38	Multiple congenital anomalies
33378	36	3	2	Placenta praevia	2 1¾	25	Prematurity
11977	22	1	0	Toxemia	2 10	33	Prematurity
24887	26	2	1	Premature separation of placenta	2 5¾	30	Premature twin birth
24887	26	2	1	Premature separation of placenta	2 —	30	Premature twin birth
26545	26	2	0	Premature separation of placenta	1 15	27	Stillbirth
11927	25	1	0	Premature separation of placenta	1 10	30	Prematurity
16047	26	1	0	Premature separation of placenta	? ?	22	Nonviability
16458	39	4	1	Premature separation of placenta	? ?	36	—

Table 3. *Fetal Mortality.*

Group	No. of Babies	Fetal Deaths	Gross Fetal Mortality	Corrected Fetal Mortality
			%	%
All deliveries	5950	153	2.6	1.8
Cesarean section	402	16	3.9	1.9

Fetal Mortality

Including one set of twins, there were 16 fetal deaths (Table 2). The indication for section in 11 cases was uterine bleeding (3 in the second and 8 in the third trimester). The indications in the remaining 5 were repeat section in 2, uterine inertia in 1, cephalopelvic disproportion in 1, and toxemia in 1 case. Thus, the gross fetal mortality rate is 3.9

Table 4. *Comparative Rate of Cesarean Section and Fetal Mortality.*

Hospital	Author	Period	No. of Sections	Percentage	Percentage of Private Patients	Percentage of Ward Patients	Maternal Mortality	Fetal Mortality
							%	%
Cedars of Lebanon, Los Angeles	Harris et al.[3]	1937–1948	1622	9.4			0	2.96
Brooklyn Jewish Hospital, New York	Daichman & Pomerance[4]	1942–1946	924	4.1			0.54	3.4* 5.3†
Cincinnati General Hospital	Kistner[5]	1940–1949	251	1.5			1.1	5.1
Sloane Hospital, New York	D'Esopo[9]	1942–1947	1070	5.8	7.7	4.4	0.1	3.7
Indiana University Medical Center	Huber[10]	1944–1950	606	5.9	8.8	2.8	0	4.6
Bellevue Hospital	Studdiford[8]	1942–1951	654	4.0			0.3	6.3* 8.8†
Beth El Hospital, Brooklyn, New York	Litchfield et al.[11]	1945–1951	969				4.5	4.5
Charity Hospital, New Orleans	Dyer & Nix[12]	1949–1951	310	3.9			1.6	12.2
Sutter Maternity Hospital, Sacramento, California	Schluter[13]	1938–1950	823	2.6			0.0	22.2
St. Vincent's Hospital, New York	Hennessey[14]	1932–1946	536	3.4	5.9	1.7	1.86	9.7
Boston Lying-in Hospital	Irving[15]	1934–1943	1887	4.2	6.7	3.1	1.3	6.8
Beth Israel Hospital	—	1950–1953	399	6.7	7.0	4.9	0	1.9* 3.9†

*Corrected.
†Gross.

per cent as compared to 2.6 per cent in all deliveries (Table 3). If all infants weighing less than 1000 gm. and congenital anomalies incompatible with life are eliminated the fetal mortality rate for all deliveries is 1.8 per cent, and that for cesarean sections 1.9 per cent. In only 2 cases was there any possible relation between the operation and fetal death. In 1 case a full-term fetus died as a result of atelectasis. One might theorize that if it had been possible to deliver this baby from below, the normal labor would have prevented the atelectasis. On the other hand there were three loops of umbilical cord around the neck that might have had some untoward effect on the infant during a vaginal delivery.

In another case of a full-term infant dying of atelectasis it was difficult to determine the progress of labor by rectal examination, and several vaginal examinations were done. On two occasions anesthesia was administered (nitrous oxide, oxygen and ether on one and spinal on the other) because the operator thought that delivery was imminent. In addition the patient had received repeated doses of Demerol and barbituates during an eighteen-hour labor. The infant died at the end of thirty-two hours.

Discussion

To evaluate the results of cesarean sections at the Beth Israel Hospital during a three-year period, 1950–1953, they are compared with those in other institutions (Table 4). It will be noted that the section rate is somewhat higher than the average. However, there has been no maternal mortality, and the fetal mortality is one of the lowest in the country. It will also be evident that the higher the section rate, the lower the fetal mortality. This does not imply that, if the incidence of sections progressively increases, the fetal mortality will continue to decrease. There is a point of diminishing returns, which D'Esopo[9] has established at about 7.0 per cent. The Beth Israel Hospital seems to have reached this optimum.

It is interesting that the corrected fetal mortality for all deliveries and that for cesarean sections are practically the same. This indicates that the operative procedure itself has no untoward influence on the fetal salvage. This is in marked contrast to previous teaching.

Summary and Conclusions

In the first three years of the Obstetrical Service at the Beth Israel Hospital there were 5871 deliveries. Of these, 399 were cesarean sections, or a rate of 6.7 per cent.

There was no maternal mortality.

The maternal morbidity was 4.7 per cent.

The gross fetal mortality in cesarean sections was 3.9 per cent. The corrected fetal mortality was 1.9 per cent, which was the same as that for all deliveries.

Cesarean section is today a safe procedure for the mother and in our experience offers no greater risk to the infant than vaginal delivery.

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GASTRIC ULCER — BENIGN OR MALIGNANT*

Preliminary Report of a Roentgenologic Study

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THE roentgenologic diagnosis of gastric ulcer is not difficult. The difficulty arises when an attempt is made to differentiate a benign from a malignant ulcer. The internists, surgeons and radiologists are not in agreement whether such a differentiation is possible, Grimes[1] contending that it is quite impossible with current methods. This is also the general attitude of Palmer,[2] Marshall and Welch,[3] Allen,[4] and Jordan.[5] On the other hand, Stevenson and Yates[6] report an accuracy of 93.4 per cent in 91 cases. Corrigan and Peterson,[7] Bille and Rømcke[8] and others concur in this opinion. This difference of opinion appears to be a result of the extremely wide variation in the amount of care that has gone into the x-ray study of these ulcers. Careful examination, utilizing numerous spot films to reveal the mucous-membrane pattern within the stomach, will yield a high degree of accuracy.

It is not unheard of for the pathologist to make a diagnosis of benign ulcer on gross examination only to find characteristics of a malignant lesion on histologic study. This error has been cited as varying from 14 to 18 per cent.[9] It has been our impression that with detailed radiologic technic, we can achieve results comparable to those obtained by the pathologist. To test the accuracy of these principles, the present study was undertaken.

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MATERIALS AND METHODS

This study includes all cases, unselected, seen at Waterbury Hospital from February, 1949, through February, 1952. The majority of patients were fluoroscoped by one roentgenologist, who made the final diagnosis in all cases. The technic employed was the same in all cases, with emphasis on spot-film and mucosal study. Standard films were also taken to complete the examination. Frequently, all the characteristics were visualized on spot films whereas the standard films did not even suggest the presence of the ulcer. Special problems, such as hypersecretion and obstruction, were handled with special technics.

A B

FIGURE 1. *Projecting Ulcer* (A) *and a Nonprojecting Ulcer* (B).

The criteria employed in differential diagnosis were as follows:

Projection

A serious attempt was made to tell whether the lesion actually projected beyond the confines of the stomach, ensuring that the presence of edema or a collar did not give rise to an apparent projection. A lack of projection beyond the confines of the stomach was considered to be a malignant characteristic, even though the complete study did not substantiate this impression (Fig. 1*A* and *B*).

Collar

In practically all the ulcers, a collar could be elicited when compression was used. The character of this collar was carefully studied. If it was even

and showed no irregularity, it was regarded as representing edema about the ulcer crater rather than an infiltrating lesion (Fig. 2*A* and *B*).

Presence or Absence of Radiating Folds

Radiating folds extending right up to the ulcer crater were considered to be a benign characteristic.

A B

FIGURE 2. *Roentgenograms, Showing a Regular* (A) *and an Irregular Collar* (B).

Radiating folds that did not extend up to the ulcer crater could be either malignant or benign, depending upon whether the edema obliterated the folds. In many cases of marked edema, however, the folds

FIGURE 3. *Radiating Folds Extending to Ulcer Crater.*

still tended to radiate toward the ulcer crater (Fig. 3).

Presence or Absence of Overhanging Edges

Overhanging edges, it was believed, constituted a benign characteristic rather than a malignant one (Fig. 4).

Irregularity of the Niche

Many cases of benign ulcers showed a slight irregularity that was due either to débris or to vascular structures at the base. When the irregularity was more than minimal, this was used as a sign of cancer. As ulcers healed, they tended to become somewhat triangular in appearance with a pointed base, with subsequent puckering of the mucosa toward this area (Fig. 5*A*, *B* and *C*).

The finding of an incisura, when opposite an ulcer crater, was an indication of benignity. Local rigidity had no real diagnostic value since it could be due either to fibrosis from chronic ulceration or to malignant infiltration. The study of peristalsis proved worthless in our experience as an aid in differential diagnosis.

Obvious space-taking lesions, even though they contained an ulcer crater, were excluded since this did not enter into the problem of differential diagnosis.

FIGURE 4. *Overhanging Edges of Ulcer.*

Ulcers were classified as follows: definitely benign or malignant; probably benign or malignant; and type undetermined. In the second group were placed cases that, although showing characteristics of both types of lesions, had a preponderance of one type. The indeterminate type included the group

in which a diagnosis of ulcer was made but, because of secretion, an inadequate study or obstruction, further determination was impossible. For purposes of judging accuracy, the initial report after complete study of the case was used as far as possible. In some cases this meant two or three examinations within a week. Any subsequent changes in impressions from further studies or repeat studies after this immediate period were not used to influence the diagnosis reported.

A B C

FIGURE 5. *Roentgenograms, Showing a Perfectly Regular Niche* (A), *a Slightly Irregular Niche* (B) *and a Grossly Irregular Niche* (C).

RESULTS

The diagnosis of gastric ulcer was made in 50 cases during the three-year period. Of these, 22 were proved unequivocally by histologic methods, either at operation or at post-mortem study. For the purpose of this study repeat x-ray study was made in 18 cases regardless of whether the patient had symptoms. Ten patients could not be followed, some having moved away, and others having died without autopsy. A few refused to return for follow-up study.

TABLE 1. *Accuracy of Diagnosis in Proved Cases.*

CLASSIFICATION	CORRECT X-RAY DIAGNOSIS	HISTOLOGIC DIAGNOSIS	
	NO. OF CASES	BENIGN CASES	MALIGNANT CASES
Benign	8	8	
Probably benign	4	4	
Equivocal type	4	4	
Probably malignant	3	1	2
Malignant	3		3
Totals	22	17	5

Of the histologically proved cases (Table 1), x-ray diagnosis of definitely benign ulcer was made in 8. Likewise, x-ray diagnosis of definitely malignant ulcer was made in 3 cases, in each of which the diagnosis was proved to be correct. In the uncertain group, all 4 cases diagnosed as probably benign were proved to be benign. Two of the 3 diagnosed as probably malignant were proved to be malignant; the other was benign. All 4 of those judged equivocal by x-ray appearance proved to be benign. Thus, in the proved cases, the accuracy of definite x-ray diagnosis was 100 per cent. In the less definitely diagnosed cases — that is, "probably" benign or malignant — the accuracy of diagnosis was 91 per cent. This represents the degree of fallibility of our criteria under conditions where full employment of the technic described above was possible. Differential diagnosis could not be made in 4 cases classified as equivocal, owing to an inability to perform an adequate study. We believe that this does not reflect on the validity of the criteria.

Eighteen cases were followed clinically for varying periods, as shown in Table 2. This group is presented to show that these patients are being followed continually and will be placed in their proper category when a definitive histologic diagnosis is made.

TABLE 2. *Follow-up Data in Group in Which Clinical Diagnosis Was Checked by X-ray Examination.*

FOLLOW-UP PERIOD	HEALED ULCERS	LESIONS NOT HEALED
mo.		
0–6	3	
7–12	4	5
13–18	3	1
19–24	1	1
25–30		
Totals	11	7

DISCUSSION

We realize that the number of cases in this study is too small to have statistical significance. This communication is made as a preliminary report on a continuing project.

We believe that our results, so far, bear out our original impression that, by means of a careful technic, it is possible to differentiate benign and malignant gastric ulcers with a high degree of accuracy.

The information gained from the examination of the stomach is commensurate with the care taken in examining the mucosa. It is essential that all portions of the mucosa be examined carefully from the fundus down to the pylorus. The pathologist, in examining the tissues, depends upon site and palpation whereas the radiologist uses function as well. The pathologist has difficulties on gross examination, and the radiologist has similar problems. Assuming that a complete examination is possible, there should be good correlation between a diagnostic x-ray study and the pathological findings. This was true when the examination had been adequate. In the cases in which most of the details have been obtained but one or two are not clear-cut, it is still possible to obtain a high degree of accuracy. However, when the position of the stomach blurs mucosal detail (Fig. 6) or when the patient is unco-operative real difficulty arises. It is well known that, in many cases, excess secretions make the first examination difficult (Fig. 7*A*). This handicap was often overcome by repeat studies after the institution of gastric evacuation and a medical regimen (Fig. 7*B*). At times, the patients were actually brought to the x-ray department with a tube in place so that almost complete evacuation was obtained.

We believe that, in this manner, it is possible to diagnose by radiologic methods a benign or malignant ulcer without leaving it up to surgeons to make the decision at the time of operation. In fact, the surgeon who must examine the tissues from the serosal surface is at a disadvantage since palpation must be done external to the lesion whereas a roentgenologist has the advantage of examining the mucosa directly.

FIGURE 6. *Roentgenogram, Showing Demonstration of Ulcer Crater but with Ill Defined Mucosal Detail (No Differentiation Possible).*

We found no single characteristic to be pathognomonic of benignity, although overhanging edges or a perfectly regular collar, or both, was seen only with benign ulcers. The finding of slightly irregular ulcer craters does not invalidate this conclusion. The grossly irregular ulcer crater or collar was pathognomonic of cancer. The size of the ulcer was unimportant in differential diagnosis.

The classification of x-ray diagnosis we have made was suggested by Schwarz.[10] We believe that this is extremely useful in combination with the technic

A

B

FIGURE 7. *Roentgenograms, Showing Excess Secretions Preventing Adequate Study* (A) *and, after Three Days on a Medical Regimen and Periodic Gastric Evacuation, Demonstration of a Tiny Ulcer* (B).

that we have employed. If future results, with a larger number of cases, bear out our present findings, much safer and more certain clinical management of gastric ulcer will be possible. Ulcers diagnosed as definitely benign or malignant may be treated as such. The uncertain group will require expectant and careful handling by means of multiple diagnostic methods.

Summary and Conclusions

Forty cases of gastric ulcer were studied, of which 22 were proved. Total accuracy was 94.5 per cent, excluding patients inadequately examined by radiologic methods.

The proper technic is of prime importance in the differential diagnosis of benign and malignant gastric ulcers. The results of the present study tend to confirm our original impression of the value of x-ray study in the differential diagnosis.

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MEDICAL PROGRESS

ALLERGIC REACTIONS TO BEE AND WASP STINGS*

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THE problem of severe reactions to the stings of bees and wasps has presented itself with increasing frequency in the past few years, and although our interest has been turned to these reactions, this interest does not seem to be the sole explanation of the apparent increase. Inquiry among colleagues has confirmed our clinical impression, and the seriousness of these reactions has led us to believe that a critical review of the situation is indicated.

Isolated reports of sudden death from insect stings appeared in the literature before the turn of the century, and Gould[1] lists 3 cases of bee sensitivity, 1 dating back to 1811. One of the earliest reports that recognized the anaphylactic nature of such reactions was made by Waterhouse[2] in 1914, when he described a man with nearly fatal reactions to bee stings that followed less severe reactions. Although severe reactions to less common insect stings have been described[3-7] most of the reports concern stings of bees and wasps.

Identification

These insects, members of the order hymenoptera, are from two families, the apids, or bees and the vespids, or wasps. Since the solitary species are not ordinarily stingers, it is the social species that concern us.

Of the social apids, the two important species are the honey bees and the bumble bees, both well known and easily identified by the average person. Honey-bee nests or hives contain large numbers of inhabitants, which attack unmercifully when disturbed. It is not uncommon for children to be stung when barefooted in grass as the insect gathers nectar from clover. These bees inject their stinger as well as the venom sac, and after stinging they die. The stinger should be removed from the patient, with care not to squeeze the sac with consequent injection of more venom. In addition to the occasional person inadvertently involved, the honey bee presents an occupational hazard to the bee keeper and accounts for a number of reports in the literature. The social bumble bees, of which there are about 15 species in New England, nest underground in smaller groups and usually sting individually when repeatedly annoyed.

The social vespids are not so easy to identify as the bees. They are usually a source of confusion and uncertainty to the patient who is trying to report what stung him. Although there are approximately 12 species in New England, experience indicates that only 3 of these are important to this problem, probably account for a large number of the serious reactions and need care in identification. Although colloquial names are applied differently in various sections of the country, we have used these names because they are more easily remembered. The characteristics most useful for identification are presented in Figures 1, 2 and 3.

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The polistes, or paper wasp, largest of the three, builds his small open-comb nests under eaves or on rafters in a protected place such as a garage or attic. He stings only on provocation, but can be vicious.

FIGURE 1. *Appearance of the Polistes or Paper Wasp, Which, Like Most Other Wasps, Has a Somewhat Petiolate Abdomen Tapering at Each End.*

The hornet, or common white-faced hornet, constructs large *pâpier-maché*-like oval nests hanging from trees or shrubs. These nests may hold as many as ten thousand hornets, which stream out

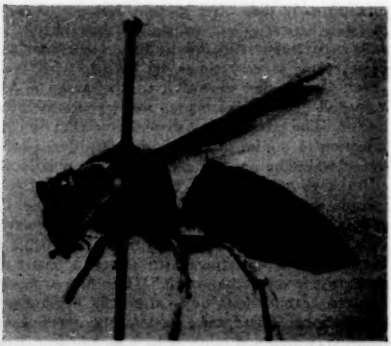

FIGURE 2. *Appearance of the Vespine Wasp (Hornet or Yellow Jacket), Which Has an Abdomen That is Truncated Anteriorly.*

at the slightest interference to attack viciously in large numbers. The yellow jacket, though smaller, is closely related to the hornet, both being vespine wasps. In addition to the features in the plates, the yellow bands on the body are an identifying feature of the yellow jacket. This wasp nests near or on the ground, under logs or in holes in the ground, is a mean stinger when nests are disturbed and may be encountered when a grass mower disturbs the nest. Although size is used as a means of identification in this group it cannot be depended upon because of a great variation between the size of queens, workers and drones in each species.

IMMUNOLOGY

Although the fact is not entirely clear, the sensitizing antigen seems to be contained in the entire body of the insect.[2, 8-10] Benson's[4, 9, 10] studies indicate that the antigen is present throughout the bee's body and is independent of venom or pollens, but that the venom carries with it a minute amount of antigen peculiar to the bee's body. Rockwell[9] also showed that various portions of the mosquito

FIGURE 3. *Comparison of the Yellow Jacket (Left), Which Has a Roundish Head and Face with the Hornet (Right), Which Has a Longer Face Because of the Extended Oculomalar Space.*

body produced skin reactions in varying degrees. Ellis and Ahrens[11] demonstrated allergic responses in 3 patients whenever they were exposed to objects that had been in contact with bees or with the dead insects themselves. The amount of venom injected by the sting has been variously calculated from 0.0001 gm. by Ross,[12] to 0.05 cc. by Phisalix,[13] and 0.3 cc. by Strauss.[14] The last figure seems enormous.

It is likely that there are multiple antigens and that some are species specific and some are generic specific. Benson[9] reports 3 bee-sensitive patients who reacted to wasps by skin test and 4 bee-sensitive patients who did not react to wasp. It must be admitted that the 3 patients who reacted to both could have been sensitive specifically to each. McLane's[15] patient was extremely sensitive to bees but had no reaction to wasp stings. Gordon[16] asserts that these severe reactions to stings are highly specific and that persons who react to one species do not necessarily react in a similar manner when

bitten by a different species although both insects may belong to the same genus. To our knowledge there has been no completely convincing study of cross sensitivity, and the answer to this is certainly undetermined. From the evidence at hand we have assumed, for purposes of treatment, that cross reactions do exist, and that they are probably fairly common.

Most of these patients give a history of previous stings, with reactions that are immediate or delayed for twenty-four hours and consist of local swelling; in some patients, malaise, urticaria and other symptoms of serum sickness appear a week or so later. We believe that this constitutes the sensitizing dose or doses. A subsequent sting may then precipitate an immediate shock reaction that closely resembles artificially produced animal anaphylaxis. There is a feeling of constriction in the throat and chest, respiratory difficulty, with cyanosis, massive local edema, giant urticaria, loss of consciousness, involuntary bowel and bladder excretion, bloody frothy sputum and either slow recovery or death. This reaction may appear within fifteen seconds and usually within a few minutes. Waterhouse's[2] patient took only a few steps after being stung before he felt the constriction in his chest, and Swinny's[17] patient was unconscious within three minutes. Although in the case reported by Williams[18] the patient did not collapse and go into shock until fifteen minutes after he had been stung by 6 or 7 wasps, his symptoms began a few minutes after he was stung. One of our patients was unconscious in five minutes. In fatal cases findings at post-mortem examination, according to Jex-Blake,[19] are emphysema with sanguineous exudate, overdistention of the right side of the heart, splanchnic dilatation and hepatic engorgement.

Since this is an artificial sensitization, it seems that anyone, not necessarily atopic, could be so sensitized. Although passive transfer has been demonstrated by Benson[9] and others, it is the exception, and may be present only in sensitized persons who are atopic; the patient described by Benson who had demonstrable reagins was extremely pollen sensitive and had many other allergic manifestations. This may well have been a by-product of the sensitization in this patient and probably is not necessary for production of the shock reaction. Certainly, nonatopic persons can be sensitized. Of our 7 cases, there was no personal or family history of allergy in 4. Of Benson's 11 patients 4 had no other allergic difficulties, and 1 out of 7 of Rockwell's[3] patients gave no personal or family history of allergy. However, this averages better than 65 per cent of atopic patients in this small group and raises the question whether allergic people are more susceptible to sensitization than those who are nonallergic.

Desensitization

Benson[9] attempted desensitization to bees in 7 cases. Two of these patients were subsequently stung, with no reaction. One had only eight inoculations in 1935 and was stung in 1938, with no reaction. The other had inoculations over a period of three months and subsequently suffered twenty-five stings at one time, with no reaction; he was a bee keeper, and in the next ten years was stung several times, with no ill effect.

Prince and Secrest[20] treated 3 patients with bee antigen. One of these was sensitive to bees and wasps, and the other 2, who had never been stung by bees, were apparently sensitive only to wasps. The first patient was subsequently stung by bees and yellow jackets, and had only a slight reaction. During the course of desensitization both the others had general reactions from inoculation with bee extract, although they had never been stung by bees. In 1 patient a general reaction followed the inoculation of 0.9 cc. of a bee extract containing only 0.0000001 mg. per cubic centimeter. Prince and Secrest[20] are of the opinion that bee antigen desensitizes the patient to both bee and wasp stings. It should be noted that none of their patients had ever had an immediate shock reaction from stings. Their reactions were only of the delayed local type.

McLane's[15] successfully treated case is probably unique. The patient, who was the wife of a professional bee keeper who had for years depended upon his bees for a living, was so sensitive that even proximity to bees caused asthma. She had been stung several times, with severe reactions, and finally nearly died after a sting, because of shock, massive urticaria and edema of the glottis. She was apparently sensitive to bees alone, and had been stung several times by wasps, with no ill effect. Bee bodies were sent to a commercial firm, a special extract was made, and inoculations were begun. The patient was so sensitive that the first injection (1 minim of a 1:10,000,000 dilution) produced wheezing and urticaria. She was finally able to take 40 minims of a 1:500 dilution. After 30 inoculations at intervals of three or four days the supply of extract was exhausted. The author says, "Since the desire was to make it possible for her to take actual stings with safety, I felt it was time to try an actual sting." The first sting was induced seventy-four days after the beginning of inoculations. There was a moderately severe general reaction, which was relieved by epinephrine. Stings were induced at weekly intervals (in the doctor's office) for ten or twelve weeks, with gradually lessening reactions, until there was no reaction after a sting. The patient then carried on the treatment at home for four years, with weekly stings during the summer and twice a month during the winter. She was stung a number of times when in the fields, with negligible reactions. (Fisher and

Center[21] have also reported the successful treatment of a bee keeper's wife for severe bee sensitivity, but did not record the duration of desensitization.)

Swinny[17] regards sensitivity to the stinging insects as sharply species specific, some patients being sensitive only to black wasps and negative to yellow jackets, bees, ants and other stinging insects and others to more than one species. Dr. A. Fordwolf, of Temple, Texas, in discussing Swinny's paper, made the following comment:

> The protection given by inoculation does not last long; it is advisable to give maintenance doses of the antigen until there is evidence that it is safe to stop them. Such evidence might consist of a person being in a different environment where a sting would be unlikely, or his having had repeated stings over a long period of time without untoward reactions.

In support of this he cited the case of a man who, in 1944, was given wasp inoculations because of several nearly fatal reactions from stings. For a year or so after treatment was stopped he was stung several times, with negligible reactions. However, stings began to cause more and more local swelling, and then systemic symptoms. He intended to resume treatment but never got around to it, and finally died from a sting.

The following 7 patients, all children, are at present under treatment:

Case 1. This patient had a shock reaction from wasp sting. There was a negative intracutaneous test with 1:10,000 (polistes) paper-wasp extract. Inoculations are still proceeding — the top dose has not yet been reached. The patient has had no stings.

Case 2. This patient had a shock reaction from "bee or wasp." There was a negative intracutaneous test with 1:1,000,000 dilution of mixed bee and paper-wasp extract. Inoculations with 1:1,000,000 were started in the winter of 1952. There was a general reaction after 0.05 cc. of 1:1000, so that the dose was dropped to 0.4 cc. of 1:10,000 and not subsequently increased.

In the summer of 1952 the patient was stung by a white-faced hornet (accurately identified). A severe shock reaction immediately resulted.

Dosage is now up to 0.3 cc. of 1:1000 dilution, without reaction.

The patient has had no further stings.

Case 3. In this case the shock reaction occurred from a wasp sting (the species was not identified). An intracutaneous test with a 1:1,000,000 dilution of mixed paper-wasp and bee extract was negative.

Inoculations were started in 1950 with 1:1,000,000 dilution of this extract. The top dose reached was 0.3 cc. of a 1:10 dilution, which was continued once a month.

In the summer of 1951 the patient was stung by a "wasp" (species unidentified). There was no reaction.

Case 4. In this case the shock reaction was from a "wasp" sting (species unidentified), with unconsciousness in 5 minutes. An intracutaneous test with 1:100,000 dilution of mixed paper-wasp and bee extract was positive.

Inoculations were started in February, 1953, with 1:100,000 dilution of this extract, and the dosage has now reached 0.1 cc. of 1:1000 dilution.

No further stings have occurred.

Case 5. This patient had a shock reaction from a honey-bee sting. There was a positive intracutaneous test with a 1:100,000 dilution of mixed paper-wasp and bee extract and a negative test with 1:1,000,000 dilution.

Inoculations were started in the winter of 1951 with 1:1,000,000 dilution of this extract, a top dose of 0.3 cc. of a 1:100 dilution being reached in the summer. This dosage has been continued at 4-week intervals to the present.

The patient was stung by a honey bee in the summer of 1952, with a moderate local reaction.

Case 6. This was a severe general reaction, with giant urticaria, marked local swelling and wheezing, after a sting by an unidentified insect, probably a yellow jacket. There was a large positive intracutaneous reaction with a 1:100,000 dilution of mixed paper-wasp and bee extract and a small positive reaction with a 1:1,000,000 dilution.

Inoculations were started in the spring of 1953 with a 1:1,000,000 dilution of this extract, and the dosage has now reached 0.35 cc. of 1:100,000 dilution.

No further stings have occurred.

Case 7. This patient had a severe general reaction, with marked local swelling and severe wheezing, after a sting by a paper wasp (identified). There was a negative intracutaneous test with 1:100,000 dilution of mixed paper-wasp and bee extract, and a slightly positive test with 1:10,000 dilution.

Inoculations were started in the spring of 1952 with a 1:10,000 dilution of this extract. The top dosage reached was 0.05 cc. of 1:10 dilution. This dosage has been continued at 4-week intervals to the present.

No further stings have occurred.

Discussion

It is clear that desensitization is a valuable procedure for these patients and that it should be carried out for all those who have severe reactions from bee or wasp stings. It may be life saving.

A few important practical questions are not entirely clear, however. In the first place, is the sensitivity order specific or species specific? Will inoculations with bee extract protect the patient against wasp stings? Will inoculations with antigen made from the common paper wasp, which is the antigen ordinarily used, offer protection against hornet and yellow jacket as well? The situation is analogous to the relation between timothy and the other grasses in the treatment of hay fever, some believing that timothy gives protection against all the grasses, and some only against itself. The question of specificity, however, is much more important in desensitization to bees and wasps than in desensitization to grasses, because in the former, inadequate protection may mean the difference between life and death; in the latter the difference is simply between comfort and discomfort. Not enough data are available to answer these questions adequately.

There can be no doubt that, in many cases, protection is obtained by "desensitization." Is the procedure, however, analogous to "hyposensitization" in hay fever, carried out in "atopic" people, in which desensitization is never complete, and whatever protection is obtained is usually lost if the inoculations are not continued, or does it more closely approach true desensitization as seen in the anaphylactic animal? Is protection of short duration only, as it is in hay fever, or is it retained for a long time or permanently after inoculations have been discontinued?

Not enough data are available to answer this question with assurance. There can be no doubt that 2 of Benson's[9] patients were permanently desensitized after relatively few inoculations. This was in 1935. At present, however, Benson[22] is in favor of continuing inoculations over a longer period. Fordwolf, discussing the case presented by Swinny,[17] stated that in 1 patient protection lasted for only a short time and discontinuance of inoculations was followed by disastrous results.

The sensitization that follows bee and wasp stings is an artificial one, exactly similar to that which occurs in the animal, or in the normal, nonatopic human being, after the injection of horse serum or other foreign protein. Sensitization has been observed in atopic or nonatopic persons, and although it may occur more frequently or more readily in patients with asthma, hay fever or atopic dermatitis, there is no evidence to prove this. It may be that true and permanent desensitization is obtained in nonatopic persons, and that, for them, long-continued inoculations are not necessary, whereas, for those who are atopic, the reverse may be true. This hypothesis is suggested by Walzer.[23]

From a purely practical point of view, however, it seems wiser, in the present incomplete state of knowledge, to continue inoculations over a long period for all, in accordance with Fordwolf's recommendations. The seriousness of the situation warrants this precaution.

Practical Matters

If the patient is a child there is likely to be no identification of the insect; if he is an adult there is differentiation between bee and wasp, but often no differentiation between paper wasp, yellow jacket and hornet. For these reasons the best procedure seems to be to use bee extract alone only when the situation is entirely clear and, in all other cases, to use a mixed extract of bee, paper wasp, hornet and yellow jacket. Of the wasps, hornet and yellow jacket are by far the most important. No hornet extract or dried material is at present commercially available. Only one firm furnishes yellow-jacket extract.

Table 1. *Suggested Dosage Schedule.*

Dosage with 1:1,000,000 Dilution	Dosage with 1:100,000 Dilution	Dosage with 1:10,000 Dilution	Dosage with 1:1000 Dilution	Dosage with 1:100 Dilution	Dosage with 1:10 Dilution
cc.	cc.	cc.	cc.	cc.	cc.
0.05	0.05	0.05	0.05	0.05	0.05
0.10	0.10	0.10	0.10	0.075	0.075
0.20	0.20	0.20	0.20	0.10	0.10
0.40	0.40	0.40	0.30	0.15	0.15
			0.40	0.20	0.20
				0.30	0.30
				0.40	0.40

A reasonable procedure seems to be, first, to make an intracutaneous test with 1:1,000,000 dilution of the antigen and if the test is negative to begin treatment with 0.1 cc. of this dilution. One should then proceed with inoculations once or twice a week, Table 1 offering only a very general guide, until the top dose is reached, which for some patients is 0.3 or 0.4 cc. of the 1:10 dilution, and for other, more sensitive patients much less than that. Secondly, the top dosage is given once a month for three years. This schedule requires 32 inoculations, and it is possible that with some patients increase in dosage could be more rapid. It must be remembered, however, that most of them are extremely sensitive, and that great caution is necessary.

Table 2. *Manufacturers of Bee and Wasp Extracts.*

Manufacturer	Product
Hollister-Stier Laboratory 2031 North 63rd St. Philadelphia	Graduated dilutions of bee, paper wasp and yellow jacket — separate or in mixture
Cutter Laboratories 4th and Parker St. Berkeley 10, Cal.	Graduated dilutions of bee extract
C. E. Blatt Independence, Mo.	Powdered, dried, defatted paper wasp; bee body for making extracts.
Southwest Mold & Antigen Laboratory 1009 Northeast 17th St. Oklahoma City, Okla.	Powdered, dried, defatted paper wasp; bee body for making extracts.
Sharp and Sharp 3402 Norton Ave. Everett, Wash.	Powdered, dried, defatted paper wasp; bee body for making extracts.
Steman Laboratories 1205 Northeast 18th St. Oklahoma City 11, Okla.	Powdered, dried, defatted paper wasp; bee body for making extracts.
Center Laboratories 748 Sterling Place Brooklyn 16, N.Y.	Powdered, dried, defatted paper wasp; bee body for making extracts.

We have noted that there is uncertainty among physicians about where bee and wasp extract may be obtained. Table 2 is a list of manufacturers, with their products.

We are indebted to Professor Albro T. Gaul, of West Cummington, Massachusetts, who prepared the photographic plates.

31 Church St., Winchester
319 Longwood Ave., Boston

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MEDICAL INTELLIGENCE

WORLD CONFERENCE ON MEDICAL EDUCATION

MEDICAL education, according to Abraham Flexner, is not so much medicine as education, a point further emphasized by Sir Lionel Whitby in his opening address at the First World Conference on Medical Education in London last August, when he stated that the challenge to medical education is indeed the challenge to education itself. This seems to express one of the underlying notes of the Conference, which was successful beyond all expectations — not in having found any of the elusive answers to the problems of education, but in having brought together in serious discussion over 600 persons interested in these problems as they relate to medicine. These "congressionists" represented 92 schools and universities in 59 countries; their wives, their marriageable daughters and other auxiliary personnel brought the total in attendance to nearly 1000, a not inconsiderable number to come from every quarter of the free world on such an earnest mission.

The Conference, put into motion two years ago by the World Medical Association and conducted under its auspices, had as collaborating agencies the World Health Organization, the Council for International Organizations of the Medical Sciences and the International Association of Universities. Sir Lionel Whitby, Regius Professor of Physic and vice-chancellor of the University of Cambridge was president of the Conference. Its patrons were the Earl of Athlone, chancellor of the University of London; Mr. James Stuart, secretary of state for Scotland; Miss Florence Horsbrugh, minister of Education for England and Wales, and Mr. Iain Macleod, minister of health for England and Wales.

Opening on August 24 with a plenary session that occupied much of the day, the Conference then split up into 4 sections that met simultaneously during the next three and a half days. These had as their main subjects of discussion "Requirements for Entry into Medical Schools," in Section A; "Aims and Content of the Medical Curriculum" in Section B; "Techniques and Methods of Medical Education" in Section C; and "Preventive and Social Medicine" in Section D. The vice-presidents of the Conference who presided over these sections were, respectively, Dr. Victor Johnson, of the United States, Sir A. L. Mudaliar, of India, Professor A. Hurtado, of Peru, and Professor A. Stampar, of Yugoslavia. The final two half days were given over to further plenary sessions in which the deliberations of the sections and their conclusions, if any, were presented to the entire congress in a feast of reason and a flow of wit by the secretaries, or *rapporteurs*.

Over 200 of those in attendance took part in the discussions, formally or informally; a number of Americans were not unaccountably on the list. Of these no less than 8 are presently or formerly of the Boston group, half being or having been officially associated with the *Journal*. Dr. John F. Fulton, Sterling Professor of the History of Medicine at Yale University, a former member of the editorial board, presented the "History of Medical Education" at the opening plenary session. Dr. Donald G. Anderson, dean of the University of Rochester School of Medicine, formerly dean of Boston University School of Medicine and more recently secretary of the Council on Medical Education and Hospitals of the American Medical Association, addressed Section A on "Requirements for Entry into Medical School." Dr. Oliver Cope, associate professor of surgery at Harvard Medical School and a member of the Committee on Publications of the Massachusetts Medical Society, read a paper before Section B on "Teaching of Medicine and Surgery as One Discipline." Dr. Benjamin Castleman, chief of the Department of Pathology at the Massachusetts General Hospital, editor of the Case Records of the Hospital and a member of the *Journal's* editorial board, described the "Clinicopathological Conference" to Section C, with particular emphasis on its value in undergraduate teaching.

Section D, on Preventive and Social Medicine, provided the medium for the remaining 4 speakers in this geographical category. Dr. Wilson G. Smillie, professor of public health and preventive medicine at Cornell University Medical College, and

Dr. W. P. Dearing, deputy surgeon general of the United States Public Health Service, both formerly associated with the Harvard School of Public Health, spoke respectively on the "Present Status of the Teaching of Preventive and Social Medicine" and "The Need for Reorientation of Teaching" in this general subject. On succeeding days Dr. James M. Faulkner, dean of Boston University School of Medicine and a former member of the *Journal* staff, spoke on "The Home Setting in Medical Education," and Dr. John P. Hubbard, professor of public health and preventive medicine of the University of Pennsylvania, formerly of the Boston Children's Hospital, discussed the "Integration of the Teaching of Social Medicine in the Medical Curriculum."

Sir Lionel Whitby, in his opening address, previously mentioned, stressed the challenge of the present day to education in general as well as to the student himself, who must be recruited from the best possible material. It is not unreasonable to attempt a definition of the ideal student — occasionally realized in forms of culture, intelligence, integrity and humanism; it is almost equally important to visualize the ideal teacher and then to arrive at some conception of what should pass between them in the difficult terms of curriculum as well as the simpler ones of compatibility, inspiration and leadership. One might, in fact, consider the possibility of a continuing tutorial system, with the same tutor for the student's entire course. Evidence is accumulating, too, that there is at present "some poverty of mind in the finished medical and science graduates because of lack of general education in the humanities, literature, language, history, philosophy and the arts."

The fact must also be accepted that medicine is (and has always been) a social science — that one person's illness "is not an isolated event having no effect on others," human ecology, or the study of man in relation to his environment, being the fundamental basis of social medicine. This form is in no way to be confused with "socialized medicine" as presently interpreted. To fulfill its obligations the medical curriculum must constantly undergo a process of unloading and making room for new material.

Sir Lionel's concept of the purposes of the Conference may be summed up in his own concluding words:

> We may aim higher than we can reach. But if we aim high we shall at least reach somewhere. Our individual and collective responsibility as a profession grows, and will grow. We cannot escape it. Medicine to-day demands much from character, intellect, and practical ability, and medicine also provides a wide variety of opportunity for all kinds of talent. But talents will be wasted or misused if the structure and content of medical education are faulty, and if medical educationists remain complacently satisfied with themselves and their methods.[1]

Sir Richard Livingstone, formerly president of Corpus Christi College at Oxford, in the second paper of the opening plenary session gave his own broad definition of education and its aims. The aims of education, according to this thesis, are determined by three needs: to prepare educable persons, by general or vocational training, to earn their bread; to give some understanding of the universe and of men, and to help them in becoming fully developed human beings.

In brief, Sir Richard proposed as the basis of education the Philosophy of the First-rate. In referring to John Morley's saying that an educated man knows when a thing is proved and that an uneducated man does not know, he gave as his own definition the statement that "an educated man knows, and an uneducated man does not know, what is first-rate, and that the best-educated man is he who knows the first-rate in the most important human activities." His conclusion, based on this simple philosophy, is clear:

> We have the materials of a great civilization: all that is needed is to stamp it with the print of excellence. The more reason that our education should train our youth to desire, recognize, and pursue the first-rate.[2]

Many other admirable papers were presented and discussed both in the full sessions of the Conference and in the section meetings. Obviously, no fixed conclusions regarding medical education were reached, nor was any celestial course mapped for its future. Certain hopes were definitely expressed, however, for its liberation from an accumulated mass of detailed technic and technical detail. As Cope indicated, departmental barriers must be dissolved; and many others favored the reduction of minutiae and the elimination of detail.

In the final summation of the sections' efforts there appeared to be a general agreement on the need of a broad undergraduate curriculum with the practical aspects of a practicing physician's activities, especially as they relate to specialization, coming later. The functions and qualifications of the teacher were brought into focus as more important factors than they are at present necessarily given credit for being. Mark Hopkins and his log were not mentioned in this reporter's hearing, but a strong argument was presented in favor of a tutorial system in which the student during his entire course of study would be under the general guidance of a single carefully selected adviser.

Although a section was devoted to the requirements for entry into medical school, and a liberal college education was advocated, efforts at identifying the ideal student resulted only in a fusion of images bearing a general resemblance, as one *rapporteur* engagingly expressed it, to a Greek god. Perhaps medical students are not expected to fit a pattern or fall into a type.

As previously stated, the success of the Conference lay not in any immediate results that it produced but in the very fact of its having taken place and in the universal attention and respect that it commanded.

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BY THE LONDON POST

Waiting in Hospitals — Holidays in Britain Philosophy of the First Rate

JOHN LISTER, M.D.

LONDON, ENGLAND

A BRISK correspondence developed recently in the *Daily Telegraph* after a layman's letter commenting on the time a patient wastes in hospital outpatient departments and suggesting certain reforms. The writer stated that patients have to wait for periods varying from half an hour to half a day. A recent investigation had shown that the average waiting time for a patient from the time of his appointment to the time of his seeing a doctor was fifty-five minutes. Other periods of waiting followed for x-ray examinations, blood tests, form filling and social-service interviews. The correspondent stated that the same investigation had shown that whereas patients are usually early for their appointments, doctors are invariably late for their clinics. He suggested the revision of hospital record systems, the extension of outpatient departments and the provision of better waiting-room accommodation as measures that might improve the situation. He also thought that doctors should be encouraged to be more punctual and to plan their appointments so that more people are not called than can reasonably be dealt with. Most of the later correspondents reflected a somewhat better understanding of the doctor's problem, and many pointed out that much of the waiting is due to the difficulty of assessing in advance the length of time each patient will require. If every patient could be allowed the half hour that most doctors allow for private consultations, the waiting time would be reduced, but to cope with the volume of patients, many outpatient departments have to book 12 patients for each hour. One correspondent said that to be able to plan a satisfactory appointments system it would really be necessary to have a new type of patient and a new type of doctor. The patient should always be able to be examined and treated in x minutes (never $x + 15$ or even $x + 30$), and the doctor should be one who was never delayed by emergencies, the surgeon never having to do emergency operations and the physician never receiving an urgent call to his ward. No doubt some improvements should be made, but the same writer asks whether fifty-five minutes is really excessive once or twice in a lifetime for consultation with an expert on the most important thing in most people's minds. He suggests that many people waste more time in one week in queues for buses and trains or even for the cinema.

* * *

In these days of holidays with pay it has been shown that more than half the population now spend at least a short annual vacation away from home. Of these more than 60 per cent go to the seaside, 20 per cent go to the country, 10 per cent visit London, and the remainder travel abroad. It is not surprising that so many seek leisure by the sea, since no part of this island is too far from the coast, but it is probably not realized that a physician is claimed as the father of the seaside resort. In a special article the *Times* recently pointed out that Brighton is this year celebrating her bicentenary, for in 1753 Dr. Richard Russell moved there and presented a dissertation in Latin on the medical advantages of drinking sea water and bathing in it. So quickly did the people of fashion take up the doctor's theories that Brighton soon became a flourishing center for hydrotherapy and has developed into one of the most renowned resorts in the country. Nevertheless, in spite of this early start, the *Times* recalls that other resorts were well established long before Dr. Russell's dissertation appeared. Indeed, Scarborough attributes its success to the publication in 1660 of a book by Dr. Whittie commending sea-water for external and internal use, and Blackpool, by 1776, had become well known for sea bathing; one historian records that a bell was rung there when it was time for the ladies to bathe and any gentleman then found on the shore was "fined a bottle of wine."

For my own part I have just spent a fortnight on a farm belonging to a diabetic patient. I certainly found a change from the usual professional round of duty, but one day while we were having sandwiches in the harvest field my farmer friend asked me to check the carbohydrate content of his tea. His farm laborers were quick to take their cue. One asked whether boils on the neck always meant diabetes, and another expressed a horror of "that there stuff insulin," which a friend of his had taken for twelve years. The poor fellow had recently had to have his leg off for gangrene, although it was only his toe that had gone black, but his physicians were frightened of its spreading — "creeping gangrene" they called it. Having been tapped for medical information, I retaliated by asking some farming and veterinary questions. The most interesting reply I had was in answer to a question I had put to the farmer about the results of a cesarean section he told me he had had done on a sheep in obstructed labor. I asked about the result of the operation and about the surgeon's fee. The answer was, "Sheep and lamb both did well; fees,

including anesthetic, two guineas." I am sure that this figure would make the obstetricians raise their eyebrows.

* * *

The tremendous effort that went into the preparation for the First World Conference on Medical Education seems to have been fully justified. The conference, held in London at the end of August, was attended by 600 delegates representing 59 countries and 92 medical schools. The full *Proceedings* will be published in due course by the Oxford University Press, and only a few words will be said here. The various plenary and sectional meetings covered a vast field, varying from the selection of medical students to the training of their teachers. The aims of the curriculum were considered, and the importance of such technics as visual aids, group discussion, formal lectures and library study was discussed. With so many delegates from so far afield it is not surprising that widely divergent views were expressed, but there was general agreement that efforts to improve medical education should be unceasing.

Sir Richard Livingstone, in an address to the plenary session, coined a phrase with a challenge. He said that there is a philosophy that gives standards of value and judgment that apply to all spheres and activities of human life. He called it "the Philosophy of the First Rate." It differentiates good from bad and provides a standard in these days (of the modern welfare state) when the mediocre is elevated, allowing the second and third rates to seep up and dilute the first rate. He said that this philosophy must permeate medical education and influence the choice of men and women who teach the young. He said that people learn what is first rate by contact with it, and he urged that the youth be trained to desire, recognize and pursue the first rate.

CASE RECORDS OF THE MASSACHUSETTS GENERAL HOSPITAL

Weekly Clinicopathological Exercises

FOUNDED BY RICHARD C. CABOT

BENJAMIN CASTLEMAN, M.D., *Editor*

VIRGINIA W. TOWNE, *Assistant Editor*

CASE 39441

PRESENTATION OF CASE

A seventy-one-year-old man entered the hospital complaining of paroxysms of shortness of breath.

At the age of twenty-four, the patient had "strained his heart" while rowing at college. However, he convalesced rapidly and easily passed a life-insurance examination within that year. Sixteen years later he was examined thoroughly because a life-insurance examiner thought that his heart needed attention, but he had no symptoms, the heart was of normal size, there were no murmurs, and the heart sounds were normal. An electrocardiogram was entirely normal, with a ventricular rate of 75. The blood pressure was 110 systolic, 70 diastolic. Thereafter he had been perfectly well until the age of fifty-five, when he was next seen by his physician because he had had two episodes of substernal oppression on exertion three months and two weeks previously. On examination the left border of cardiac dullness was 8.5 cm. to the left of the midsternal line. The heart sounds were distant, and there was a slight aortic systolic murmur. An electrocardiogram showed slight to moderate left-axis deviation and ventricular premature beats. The blood pressure was 140 systolic, 90 diastolic. One year later he had infectious mononucleosis but was otherwise well except for occasional substernal oppressions on exercise. An electrocardiogram demonstrated many ventricular premature beats, with a rate of 70 to 80, moderate left-axis deviation, upright T waves in all leads and rather wide QRS waves. The blood pressure was unchanged. Two years later (twelve years before entry), he noted an exacerbation of the substernal oppressions with less and less effort. The heart was of normal size, with slight aortic and moderate apical systolic murmurs. The lungs and aorta were normal on fluoroscopy. The blood pressure was 150 systolic, 90 diastolic. The electrocardiogram was unchanged except for the presence of a left-bundle-branch block. He was given aminophylline, 0.2 gm. three times a day, to be gradually reduced, and advised to lead a quiet life. During the next nine years he led a very quiet life, spending the winters in Florida and the summers in Maine with walking and gardening for exercise. The substernal oppression continued to become more frequent, especially with emotion, cold or exercise but was always promptly relieved by nitroglycerin, which he was taking in recent years six to eight times a day. Upon repeated fluoroscopic examinations the heart was noted gradually to become considerably enlarged and globular, and the murmurs became harsher, with Grade 3, apical, systolic and Grade 2, aortic, systolic murmurs. The sounds were of mediocre quality. The blood pressure remained at 150 sys-

tolic, 90 diastolic. The electrocardiogram continued to show a left-bundle-branch block with a sinus arrhythmia and frequent auricular premature beats. His activity was limited, and he was treated with nitroglycerin, quinidine and digitalis, which he took regularly. Three years before entry he first noticed orthopnea. By raising the head of the bed and by reducing his salt intake he had no further symptoms until a year later, when he had an episode of paroxysmal nocturnal dyspnea. This responded well to salt restriction and Mercuhydrin. Physical examination was unchanged. The electrocardiogram was the same except for occasional runs of sinus tachycardia. Three months before entry, after the death of his wife, he was admitted to another hospital because of recurrent nocturnal dyspnea. At this time there was auricular fibrillation, and the blood pressure was 95 systolic, 60 diastolic. He was treated with digitalis, ammonium chloride, oxygen and Mercuhydrin but responded only slightly. From this time until admission he led a bed-to-chair existence, requiring a Mercuhydrin injection about every ten days. Two weeks before entry the shortness of breath increased, and pain developed in the left upper quadrant and midportion of the back, made worse by breathing. For five days before admission the white-cell count varied between 16,000 and 20,000, with a preponderance of neutrophils. Penicillin was started. For two or three days before entry he noted a dull right-upper-quadrant pain. During the twenty-four to thirty-six hours before admission, he had severe attacks of dyspnea every fifteen to twenty minutes, not associated with chest pain, cough, hemoptysis, chills or palpitation. On the morning of admission he complained of a tight sensation in the back of the left thigh extending into the calf, which was tender.

Physical examination showed an acutely and chronically ill man who was dyspneic but had no cyanosis. The neck veins pulsated to the angle of the jaw. There were superficial ulcerations of the mouth. The heart was moderately enlarged, with a Grade 2 to 3 harsh systolic murmur, heard best along the left sternal border. The lungs were clear. The liver edge was palpable 4 fingerbreadths below the right costal margin and was tender. The spleen was not palpable. There was slight edema of the feet and legs, more marked on the left. The superficial veins of both feet were distended. Dorsiflexion of the left foot caused mild discomfort, and there was a blush to the skin and tenderness to palpation over the lower left posterior calf.

The temperature was 99°F., the pulse 100, and the respirations 34. The blood pressure was 90 systolic, 70 diastolic.

A few hours after admission the patient was found outside his oxygen tent, confused, dyspneic and cyanotic. As he was being helped back to bed he had a generalized seizure starting on the right side. The extremities were cold and sweaty; the pulse was 100 and regular; and no blood pressure was obtainable. Within five minutes the heart sounds ceased, and the respirations gradually stopped.

Differential Diagnosis

Dr. Richard J. Clark*: This patient died so rapidly after admission to the hospital that there was little opportunity for special studies in the final stage. Am I correct in assuming that there are no x-ray films?

Dr. John F. Gibbons: There are none.

Dr. Clark: This is certainly an unusual protocol; a quite detailed history extends back over a period of forty-seven years with findings that include electrocardiograms over this time.

Let us go back to the episode of forty-seven years before admission, when at the age of twenty-four, he was said to have strained his heart while rowing in college. What does that mean? Is there any such thing as an athletic heart — as a strain from rowing? It might be interesting to read two or three sentences from White's[1] most recent edition:

> How much the factor of physical strain is responsible for the changes in the heart size and shape in man, we don't know. Once upon a time the medical profession as well as the laity talked glibly of the athletic heart. When most "athletic hearts" were shown to be something else, the term went into the discard, and now we are taught to say almost as glibly that there is no such thing as an athletic heart. However, a revision of past and present opinions is still awaited on the basis of most careful studies now not yet adequately assembled. There is a hint from several sources, including an annual appraisal of Harvard oarsmen . . . that an occasional, or more likely a rare person may, after some years of excessively strenuous sport, develop an increase in heart size out of keeping with any increase in body size.

Could this episode forty-seven years before admission have had anything to do with the final illness? The only connection that I can think of is that the patient may at that time have had a very brief, mild episode of undiagnosed rheumatic infection, which could have given rise to some transient signs in the heart. Within a year, however, he passed a life-insurance examination. Then, thirty-one years before admission, some question was raised by a life-insurance examiner so his heart was carefully evaluated, but he seemed to be in perfectly normal health, with no evidence of heart murmurs. There was nothing on which to make a definite diagnosis of rheumatic or other organic heart disease that might have originated in the college days.

He maintained a satisfactory state thereafter until he was fifty-five years of age, sixteen years before his final entry, when apparently typical angina pectoris on exertion developed and progressed. At this time examination showed a slight aortic systolic murmur, which was not described in more specific detail; I assume that it was maximal to the right of the upper sternum and was thought to originate from the aortic valve or possibly from the aorta. There was no mention of a systolic thrill.

*Associate physician, Massachusetts General Hospital.

The electrocardiogram, which had previously shown a normal axis, now had shifted to the left. This was in the days before the precordial leads so we do not know whether he had any frank evidence of left-ventricle hypertrophy or whether the shift merely represented a change in body build. It is of interest that the blood pressure was up slightly but not at a level that could be considered hypertensive, and with frequent observation there was never any significant elevation. He had mononucleosis, which was probably not of importance to the primary condition.

At the age of fifty-nine, he had increasing angina. His heart was still normal in size, but he now had a slight aortic and a moderate apical systolic murmur. The aorta was normal on fluoroscopy so I cannot blame a dilated aorta for the basal murmur. It is of interest that left-bundle-branch block had developed. In the absence of hypertension and with his symptomatology, it seems to me that the block was probably further evidence of progressing coronary-artery disease.

He went along satisfactorily for the next nine years, living a fairly quiet life but continuing to have angina pectoris six or eight times a day. During this period the heart was found to be enlarged and was said to be globular. This I would interpret as concentric hypertrophy of the left ventricle. The murmurs had become harsher. The apical murmur was somewhat louder than the aortic. We are not told specifically about the character of the aortic second sound; nothing was said about thrills or about radiation.

Three years before entry he had the first evidence of left-sided heart failure with orthopnea. This progressed until at the time of admission he had fairly severe nocturnal dyspnea. Later, auricular fibrillation developed. In spite of the adequate therapy, he did not do well.

Two weeks before entry he had an increase in shortness of breath, and pain in the left upper quadrant and midportion of the back developed on breathing. With this he had a leukocytosis. To me this implies more than anything else an embolic process, probably to the left-lung base, giving rise to pleural pain. Shortly after that he complained of dull right-upper-quadrant pain, which I interpret as liver congestion and probably was the first evidence of right-sided heart failure that was finally supervening on the original left-sided failure. At the time of entry into the hospital there was evidence of phlebitis involving the left leg. Indeed, it is not an uncommon sequence for signs of phlebitis in the legs subsequently to develop in patients with clear-cut evidence of pulmonary infarction.

When he entered the hospital examination gave confirmatory evidence of congestive heart failure, of the right and left sides. There was also confirmatory evidence of phlebitis in the left leg. One thing on this examination disturbs me. The heart was moderately enlarged, with a Grade 2 to 3 harsh systolic murmur heard best along the left sternal border. That murmur conforms neither with the aortic systolic murmur nor with the apical systolic murmur previously described. The patient was in a terminal stage and examined only on one day. I am inclined to take the weight of evidence of auscultatory findings described over the years and to disregard the systolic murmur described at the time of entry.

Finally, a process developed that was suggestive of an acute cerebrovascular accident in a patient who had auricular fibrillation and heart failure. The right-sided seizures suggest that the embolus was to the left side of the brain. Did this mean anything else? This man had phlebitis in the legs and, we assume, already had had emboli to the right side of the heart and lungs; could he have had a septal defect through which a paradoxical embolus might have passed to the brain? It is possible that an unimportant patency of the foramen ovale could permit such a thing, but I do not find any convincing evidence to go with this. I shall simply mention it as a possibility. I think the cerebral embolus probably came from thrombi, most likely in the left atrium.

There are several conditions that we can be fairly sure this patient had. I am certain that the pathologist cannot deny the fact that he had angina pectoris; along with that I may reasonably assume that he had fairly extensive long-standing coronary-artery disease. I assume that he may well have had multiple areas of coronary occlusion; indeed, although there was no clear-cut electrocardiographic evidence or historical evidence for it, there may have been multiple small areas of old infarction scattered throughout the myocardium. He also had congestive heart failure, both right and left sided. I can be reasonably sure that he had hypertrophy and enlargement of the left ventricle. He did not have hypertensive heart disease.

There has been debate in the past regarding how much hypertrophy with subsequent left-sided failure coronary-artery disease alone can produce. It has been fairly well established that such a consequence does occur, but it is more likely to be seen in patients who have old myocardial infarcts. This man started having hypertrophy long before he had a great deal of coronary insufficiency, or at least before he had had it for any length of time; therefore, I should look for some additional cause for hypertrophy. I am intrigued by the murmurs, and wonder whether the patient had valvular disease as well. I suspect that he may have had an aortic stenosis of a mild degree that had given rise to the aortic systolic murmur. We all know that an aortic systolic murmur may be well transmitted to the apex and may indeed be heard louder there than in the aortic area. Although I am not at all certain about the diagnosis, I think it is a very real pos-

sibility. On a statistical basis most cases of aortic stenosis do have an infectious basis. This was probably a calcific aortic stenosis, which may have been based on an old infection, possibly rheumatic. There was probable dilatation of the mitral ring as well.

I considered one of the more rare or bizarre cardiac conditions such as subendocardial fibrosis as a complication. My inclination is to dismiss this possibility because of the relatively long-standing nature of the process, prominence of the coronary insufficiency and the primary left-sided failure that continued for a considerable time before the right-sided failure began.

I believe the pathologist found extensive coronary-artery disease, pulmonary infarction, phlebitis of the leg and probably an embolus to the brain; he may very well have found aortic-valve disease and possibly mitral-valve disease as well.

DR. EARLE M. CHAPMAN: Do you think a subacute bacterial endocarditis was the terminal event?

DR. CLARK: He had embolic affairs but no clear-cut history of a febrile illness. I suppose that is something one always has to consider as a terminal event. I had not considered it seriously.

DR. CHAPMAN: The clinical story was smothered by the fact that he was started on penicillin five days before admission, and that may have obscured the picture of a subacute bacterial endocarditis.

DR. CLARK: The question might have arisen on admission whether he had an embolic or an infectious process in the lung base. It is not uncommon for patients with infarcts to be treated with penicillin when they are first seen; more often the process turns out to be infarction rather than infection.

DR. PAUL D. WHITE: This was a patient whom I followed for thirty years. Firstly, I want to compliment whoever summarized my massive notes; this is an excellent summary. Secondly, I should like also to compliment Dr. Clark for his comprehensive review of the case.

When I first examined this man about thirty years ago, he was somewhat apprehensive because of the doubt about the life-insurance examination. This was a long time after he was supposed to have strained his heart by rowing in college. I could find no evidence of heart disease whatsoever, and it was fifteen years before he began to have any symptoms. Although he was a nervous, apprehensive man, he was reassured and did not appear in my office again for fifteen years.

I might say an additional word about the athletic heart. There is still a mystery about whether there is such a thing, except perhaps for a little increase in the weight of the heart. I am now following football players who won their letters at Harvard from 1900 to 1930. I have received reports from some of the men who are in the seventies and are still extremely active, weigh as much as they did in college or only a little more, continue to be muscular, and are still in good health. We know that some very athletic people can live a long time and continue to be quite athletic. I doubt very much if there is a real athletic heart.

This patient, about fifteen years before admission, finally manifested what seemed like angina pectoris, which continued to progress very slowly during the next decade or more. He had infectious mononucleosis a year after the angina began. Whether that may have affected the picture I do not know. It has been stated that the heart may be involved in infectious mononucleosis, but I am not familiar with that involvement. The progress was slow not only symptomatically but also in the findings. The heart enlarged gradually through the years, and the murmurs developed slowly. The murmurs were never very impressive; the one at the apex was never more than Grade 3. I attributed them to the enlargement of the heart over the years. I did not think that he had valvular disease, of which there was no evidence twenty years before admission. The bundle-branch block also developed slowly; gradually, there was a widening of the QRS waves, and in one electrocardiogram before a permanent characteristic left-bundle-branch block was established, there were a few beats of paroxysmal bundle-branch block, all of which seemed consistent with the development of coronary-artery disease. There were never any thrills. We thought the patient had pulmonary embolism terminally. He was in wretched shape when I saw him in my office a few days before admission, and I suspected that he must have had complications then that might include pulmonary embolism.

A PHYSICIAN: Do you think the change in the murmur and paradoxical embolism fit in with a septal infarct, with rupture and defect?

DR. CLARK: That is certainly a good thought. There was no clear-cut evidence of infarction. I suppose it could have occurred and could explain the murmur.

DR. WHITE: The murmur was not very impressive at the left sternal border even toward the end of life. There were no episodes suggestive of a massive myocardial infarction.

CLINICAL DIAGNOSES

Coronary-artery disease.
Massive pulmonary embolus.
?Phlebothrombosis.

DR. RICHARD J. CLARK'S DIAGNOSES

Coronary-artery disease, extensive.
Pulmonary infarction.
Phlebitis of leg.
Embolus to brain.
?Aortic stenosis, calcific.
?Mitral regurgitation.

Anatomical Diagnoses

Idiopathic cardiac hypertrophy, with endocardial fibroelastosis.

Phlebothrombosis, left leg.

Congestion of lungs and liver.

Pleural effusion and ascites.

Bronchopneumonia.

Pathological Discussion

Dr. Robert H. Fennell, Jr.: We found at autopsy the usual picture of congestive heart failure — ascites, pleural effusion, congested and edematous lungs, a severely congested liver and something else we commonly find with congestive heart failure, thrombi in the veins of the left calf. We were surprised that there were no pulmonary emboli or infarcts, but there was some patchy bronchopneumonia. The heart weighed 890 gm., more than twice the normal size, and was greatly dilated on both the left and the right sides. The myocardium was not fibrosed; it was soft and reddish brown. There was definite thickening of the endocardium near the outflow tracts of the ventricle, and there was patchy thickening elsewhere. The valves were perfectly normal, soft and pliable, with no evidence of rheumatic fever or other change. The coronary arteries were the great surprise: they were almost free of atheroma. There was slight atherosclerosis in two major branches but with no significant encroachment upon the lumens, which were widely patent.

Microscopically, the endocardium of the heart was greatly thickened. Normally, the endocardium is a very thin membrane with a small amount of collagen and elastic tissue. This thickening was a fairly diffuse process though more marked at some places than at others. The underlying muscle looked normal. Deeper in the myocardium and near the endocardium elsewhere there was some patchy fibrosis, not a great deal, but here and there were small patches of fibrous tissue. That is all that we could see in this heart microscopically.

That leaves us with the problem of deciding what type of heart disease this was. The patient did not have hypertension, he did not have valvular disease, and he did not have any significant atherosclerosis of the coronary arteries. In such a situation we consider putting this in the category of idiopathic cardiac hypertrophy. Endocardial fibroelastosis, which is characteristically associated with cardiac hypertrophy, was present to a significant degree, and was away from the point where the muscle was fibrosed so that I do not think we can attribute it to coronary-artery disease; certainly, from the studies that Thomas[2] has done in our laboratory, we cannot attribute endocardial thickening like this to congestive heart failure. The clinical picture is very much against this. It is unusual for these patients to live for such a long time with symptoms, and it is unique so far as I know for them to have as clear-cut a picture of angina as this man had.

Dr. White: Of course, we were quite sure that something was unusual in this case; moreover, we learn much from these long-followed cases. I should think this is an illustration of the great value of following a patient for ten, twenty or thirty years. We should remember that there is an exception to every rule. I do not think we are likely to meet other cases exactly like this again. If there were a repetition of the symptoms, we should be justified 999 times out of 1000 in making the diagnosis that was apparently quite clear. The symptoms, I suppose, could be attributed to the fact that there was inadequate ability of the heart to carry on its normal function because of the fibroelastosis, which is now the category into which some of these cases are being put. The disease developed many years before the patient died but was not at all evident until he was forty years old. I do not believe his athletic activity had anything to do with this, and I doubt if the mononucleosis did; therefore, the cause must remain a mystery until we have more information.

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CASE 39442

Presentation of Case

A forty-five-year-old married woman, a dressmaker, was admitted to the hospital because of intermittent pelvic pain of a year's duration.

While under observation two years previously for chest pain the patient was informed that she had a uterine tumor. For about a year before admission she had experienced an episodic, sharp pain in the vagina that occurred at any time of the day or night and even occasionally awakened her from

a sound sleep. During the two months before admission she complained of a similar pain in the rectum. Neither pain had any relation to bowel movements, urination, position or cough. The menarche had occurred at the age of sixteen, and the menses were regular, occurring every twenty-eight days. The flow lasted seven days until four or five years before admission; thereafter it had lasted only four days, and during the first two days was accompanied by some pain in both lower quadrants and the back. This pain was usually relieved by application of heat to the lower abdomen. For four or five years she had also passed small clots by vagina with her periods. The last menstrual period had occurred thirteen days before admission.

Her weight averaged 160 pounds and apparently had been maintained at this level for years. There was no history of serious medical illnesses. She gave a history of intermittent episodes of substernal pain two years before admission, which always occurred about two hours after she went to sleep, lasted ten minutes and was usually relieved if she sat upright or took aspirins. Roentgenograms of the chest and cholecystograms at this time were normal. This pain had not been present for some time, but she experienced somewhat similar discomfort when excited or nervous.

Physical examination revealed an obese woman in no distress. The pertinent findings were limited to the pelvic examination. The cervix was round, smooth and clean. The uterus was definitely irregular, with an adherent mass on the left side that measured 4.0 cm. in diameter. The uterus was partially fixed in the pelvis and could not be moved easily. The right vault was clear. Rectal examination confirmed these findings and revealed a few small hemorrhoids.

The temperature was 98°F., the pulse 80, and the respirations 20. The blood pressure was 130 systolic, 85 diastolic.

The urine had a specific gravity of 1.020 and was normal. The blood hemoglobin was 12.2 gm. per 100 cc., and the white-cell count 6400, with 67 per cent neutrophils, 23 per cent lymphocytes, 4 per cent monocytes, 3 per cent eosinophils, and 3 per cent basophils.

On the second hospital day an operation was performed.

Differential Diagnosis

Dr. John B. Graham*: Two of the significant findings in the protocol are the facts that the patient had a uterine tumor two years before entry and that the pain awakened her from sleep — which suggests that it probably was real pain. This comes down to the differential diagnosis of a painful mass in the left vault.

The character and the location of the pain were somewhat unusual and perhaps significant. It was localized to the vagina. Not many patients complain of pain in the vagina. I assume that actually it was pain referred from the peritoneum rather than arising in the vagina itself. Similarly, the pain that was described as rectal was probably pain referred to the anal region. Most of the pelvic sensation — that is, pain in the pelvic viscera — is not usually referred to the perineum. Pain in the ovary and tube is usually lateralized to one side or the other and is well above the symphysis. Pain of the uterus is usually midline or bilateral, low abdominal and more specifically 3 to 5 cm. above the symphysis. The pain in the cervix is similarly, as a rule, referred to the lower abdomen. Cervical and uterine pain may also be referred to the lower back and the sacral region. Pain that is referred to the pelvis probably comes from the pelvic peritoneum in the region of the pouch of Douglas; although it may arise from the lower vagina, the vagina by and large is rather insensitive. In this case I think that the pain arose from stimulation of the pelvic floor rather than of the pelvic viscera themselves. The transitory character of the pain suggests either irritation or perhaps an abrupt expansion or change in the character of the lesion causing it. Most pains that are associated with hollow viscera are not of the transitory character described here. I get the impression that it was a stabbing pain; it was described as sharp.

To consider the various possibilities that might be the cause of the difficulty, I shall start with the least likely. Could this have been diverticulitis? Possibly, but there were no bowel symptoms, no evidence of infection, no elevation in temperature and no elevation in white-cell count.

Could it have been fibroids? I think that this patient did have fibroids. The findings at the examination two years before admission and at admission I should interpret as suggesting multiple fibroids. Do fibroids produce this type of pain? If the fibroid grows large, the patient may complain of a sense of heaviness, a sort of constant pain, that is present particularly when she is standing

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and is relieved when she is lying down. Fibroids certainly are not likely to trouble her by awakening her at night with pain. It is unusual for an ordinary fibroid to be fixed as this mass apparently was. Exceptions are found with the pedunculated subserous fibroids, which may twist and become ischemic, and thus produce pain. Then the pain tends to be more constant and progressive; it does not usually last for only a few seconds or a few minutes — as a rule it lasts for an hour or so. Moreover the pain has a uterine distribution and is not necessarily referred to the vagina.

Could this patient have had uterine carcinoma? Yes; but again there was no abnormal bleeding; the patient was young to have a carcinoma of the uterine corpus; and the configuration of the uterus was not necessarily that of a uterus involved with carcinoma. As for endocervical carcinoma, again, she had no abnormal bleeding. There was no mention on the physical examination of widening of the cervical segment; as a rule endocervical carcinoma characteristically, in the early phases, produces a barrel shape to the cervix. It is unusual for endocervical carcinoma to extend laterally in the form of a spherical mass in the vault in the absence of obvious changes in the cervix itself. She had a normal-appearing exocervix so it is very unlikely that she had a tumor of that variety.

Was this disease of a fallopian tube? Did she have salpingitis? There was no history of tuberculosis, chills or fever. Salpingitis is not often confined to one side, nor does it progress over a period of months as this did. I should expect it to have been an acute problem that gradually subsided. In addition, there was no evidence of infection as indicated by the white-cell count and temperature. The intermittent pain is compatible with cancer of the fallopian tube; however, there is no history of intermittent discharge of serous or sanguineous fluid that one frequently finds with cancer of the tube. The pain was localized to the vagina. With a tubal involvement, one would expect some lateralization or certainly some abdominal projection. Furthermore, cancer of the tube is extremely rare.

Could this have been a benign tumor of the ovary? In general with a benign tumor of the ovary that produces painful symptoms, the pain is usually severer and tends to be more constant. If the lesion had been twisting and untwisting from time to time, as a subserous fibroid may, one would expect the pain to have been characteristic of that condition. Furthermore, one would expect that the pain would not have progressed from the vagina to the rectum or, if there had been pain in the vagina and rectum, that it would have been of a pressure variety rather than the sharp variety that was described. How about cancer of the ovary? The patient had no abnormal bleeding. The history was somewhat long for it; a year's history with cancer of the ovary is not unknown, but it is not common. The pain with cancer of the ovary is usually abdominal, but it is frequently bizarre and might well conform to the type this patient had. She was in the age group in which cancer of the ovary is fairly frequent. It could have been a Krukenberg tumor of the ovary. She had a history of epigastric distress that occurred after she had been in bed for a time. I interpret that as being due to a hiatus hernia and not particularly suggestive of cancer of the gastrointestinal tract. Krukenberg tumors are unusual and even more unusual when they are unilateral.

Finally to be considered is endometriosis. She was somewhat old, but on the other hand a significant proportion of patients first have symptoms of endometriosis at this age. The pain was not lateralized and furthermore was not that of dysmenorrhea as the pain with endometriosis frequently is. If the patient had endometriosis, I think the pain arose from irritation of the pelvic peritoneum. The disease pursued a benign course. There had been no abnormal bleeding, and that is compatible with endometriosis. There was a fair amount of fibrosis and fixation in the pelvis. I think I might reasonably ask for one piece of information — that is, did she have any children?

DR. FRANCIS M. INGERSOLL: No.

DR. GRAHAM: That gives me a little more conviction that she had endometriosis. As I reconstruct the course of events, I think that she had fibroids, that she had endometriosis involving the left ovary and the pelvic peritoneum, that the first pain came from irritation of the pelvic peritoneum adjacent to the uterus and vagina, and that the subsequent rectal pain came from extension posteriorly to the peritoneum in that area.

A PHYSICIAN: Can tuberculosis be a unilateral lesion? Did anyone consider it?

DR. INGERSOLL: It can be unilateral; I do not know the percentages. It usually involves both tubes and endometrium.

DR. ROBERT H. FENNELL, JR. Two thirds of the patients have endometrial involvement.

CLINICAL DIAGNOSIS

Pelvic inflammation.

DR. JOHN B. GRAHAM'S DIAGNOSES

Endometriosis of left ovary and pelvic peritoneum.
Fibroids of uterus.

ANATOMICAL DIAGNOSES

Tuberculous salpingitis and perioöphoritis.
Leiomyomas, small, of uterus.
Endometriosis, uterine serosa.

PATHOLOGICAL DISCUSSION

DR. INGERSOLL: This patient came to me complaining of pain. I felt a definite mass in the left side of the pelvis, which was quite fixed, and she was operated on because of the fear that this mass might be malignant. I had the same problem that Dr. Graham had in making a diagnosis and did not make the correct one. When she was examined under anesthesia, one additional finding came to light — that is, she had almost as much fixation and a similar mass on the right side of the pelvis. I had not felt that mass in my office, probably because I usually examine the pelvis with the left hand and I think I feel the left vault more accurately than the right one.

At operation the entire abdomen was filled with adhesions, with extensive interadherence between loops of bowel, omentum and the other structures. We gradually developed some normal anatomy anteriorly and finally freed up the small bowel from the top of the uterus and the sigmoid from the uterus, identifying each structure. We found masses on each side of the pelvis with the uterus approximately of normal size in the center. I interpreted these adhesions as pelvic inflammation of a very severe sort. There was no previous history of a cause of it. We removed the uterus and bilateral masses.

DR. FENNELL: The specimen that we received in the laboratory was a uterus that was normal except for several very small leiomyomas in the myometrium, all less than 1 cm. in diameter, which I doubt that an examiner could have felt. The tubes were thickened and dilated, one up to 2.5 cm. in diameter. They were filled with brownish fluid, and tiny, yellow, papillary elevations were present on the mucosa. The walls were thickened and rigid. The ovaries were densely adherent. Microscopically, the tube contained granulomas with giant cells, epithelioid cells and foci of necrosis in the center, very typical of tuberculosis. The ovaries and tubes were stuck together, and in the adhesions and on the peritoneum were small tubercles. We made the presumptive diagnosis of tuberculosis on the slides. Guinea pigs inoculated with the tissue have subsequently developed tuberculosis, and this confirms our histologic impression.

DR. INGERSOLL: The subsequent course was somewhat complicated by gaseous distention. The patient was kept on chemotherapy for five days and was discharged on the ninth postoperative day, I thought, recovered, only to have to return for definite subacute small-bowel obstruction on the twelfth postoperative day. The obstruction fortunately subsided with gastric suction. She returned to my office two months later, when she appeared very well.

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AN EXPERIMENT IN INTERNATIONALISM

ANY new effort at international understanding added to the many that have already been undertaken in the post-war years is another rivet in the armor of reciprocal freedom that the autonomous countries of the world are putting together. All the more important are those efforts that spring from the hearts and minds of the ordinary, independent citizens in whose hands the shaping of a better civilization will lie, if they are permitted to exercise to the fullest degree their desire for co-operation. Any earnest attempt to create an international design in the purely humanitarian field of medicine must therefore be accepted with especial respect.

The plan for a world conference on medical education, the immediate fruits of which are described elsewhere in these pages, originated with the World Medical Association, itself a nonpolitical company of doctors primarily interested in making as widely available as possible the best possible medical care. The response to the call exceeded the fondest hopes of the originators of the plan; not only did invited speakers come from the farthest points of the world to make their contributions to the Conference but others not on the program matched their mileage in order to listen to them and to discuss the same problems from the point of view of other lands and other customs.

The Conference occupied a working week from Monday morning until Saturday noon — a week devoted in general to the exchange of ideas, although not unaccompanied by moments given over to the sheer joy of letting language unimpeded flow. No unalterable conclusions were reached that, if put into effect, would set the course of education for another period of years; no resolutions were passed to commit the Conference to the error of having seemingly made up its collective mind. Certain apparently sound ideas were expressed often enough to appear to be the sense of a majority of those participating in the discussions.

Conspicuous was the widespread opinion that undergraduate medical education should be of wide general scope, freed so far as possible from nonessential detail and from entangling alliances with specialization or with too great practical application in any field. Medicine, it was emphatically asserted, is a profession and not a technology and its future requires that this distinction be maintained. The same generalities might well apply to the premedical preparation. It is nevertheless to be remembered that a graduate in medicine is expected to have absorbed some of the technics of his calling and may be held responsible for certain practical obligations to society. Regardless of his chosen field it is assumed that he has some readily available knowledge for use in an emergency. His training should at least enable him to recognize a frank hemorrhage and try to stem it and to equal the efforts of a cab driver in effecting the delivery of a human infant, or of a police officer in protecting from further injury the victim of an accident.

In the selection of students who might be encouraged to choose a career in medicine generalities

apply to a still greater degree, adding up to the conclusion that there should be something godlike in their character if a true ideal in the results of medical education is to be reached. In the achievement of this happy outcome the selection of the teacher will play a vital part, and the tutorial system, by which a student will spend his undergraduate years under the guidance of a superior young physician, has much to recommend it.

The general impression created by the Conference was favorable for the future of the profession. This was not because of a single new idea expressed, but because of the reaffirmation of old ones that had fallen into neglect or had never been thoroughly tried under modern conditions. It was a matter of the willing admission that many of the ways of dispensing medical knowledge have not kept up with the progress that has been made in either the science of medicine or the development of social consciousness.

PREGNANCY AND HEALED SUBACUTE BACTERIAL ENDOCARDITIS

Among the diseases that have been most clearly benefited by modern antibiotic therapy is subacute bacterial endocarditis. This disease was almost universally fatal before the efficacy of the bold application of large doses of penicillin was demonstrated by Loewe; the mortality in antibiotic-treated cases in most large hospitals is now between 30 and 40 per cent. Even this figure could probably be reduced substantially by early diagnosis and by the prompt and rational application of the agents available.

Subacute bacterial endocarditis is of particular importance in young adults with heart disease. The active disease may be accompanied by heart failure, and its cure may leave the heart badly damaged or increase appreciably the severity of pre-existing heart disease. The relation of subacute bacterial endocarditis and its cure to pregnancy therefore takes on special significance.

Pedowitz and Hellman[1] recently studied the relation of pregnancy to subacute bacterial endocarditis on the basis of data assembled from the answers to a questionnaire submitted to 300 hospitals. They thus obtained and analyzed the relevant data in 85 pregnancies occurring after the mother had reached the healed stage of subacute bacterial endocarditis and in 35 other pregnancies complicated by the active disease. Recurrences of subacute bacterial endocarditis accounted for 8 of these cases. The maternal mortality for the entire group of 120 cases was 6.6 per cent; for cases with active disease during the course of pregnancy, the mortality was 14 per cent, whereas among the mothers whose disease was healed before the pregnancy began, the mortality was only 3.5 per cent. One hundred and two viable babies were delivered, of which 7 subsequently died; of the remaining pregnancies, 4 ended in spontaneous abortions, and 14 were terminated for therapeutic reasons, all but 1 early in pregnancy.

It was believed that the greatest danger of pregnancy to the mother was during the first six months after clinical cure; during this period the cardiac lesion had not yet been stabilized, and as a result, heart failure was most frequent and the maternal deaths occurred largely during that time. However, pregnancy did not seem to predispose these patients to recurrences of subacute bacterial endocarditis; the incidence of recurrences in this group of cases was similar to that in nonpregnant cardiac patients. Moreover, the treatment, according to these data, was as successful during pregnancy as in nonpregnant cardiac patients.

As a result of these findings, the authors emphasize the value of early diagnosis and intensive treatment. They also conclude that subacute bacterial endocarditis that has been healed for more than six months is not a contraindication to pregnancy. The prenatal care is similar to that of any other cardiac patient. Cesarean section is indicated only for proper and usual obstetric indications, not for the presence of this lesion alone. The authors also advocate the routine intra-partum and post-partum use of antibiotics in all patients with heart disease to prevent the occurrence or recurrence of subacute bacterial endocarditis.

These authors, presumably reflecting the practice in the hospitals surveyed, suggest that therapeutic abortion with tubal ligation is indicated in the first trimester of pregnancy occurring less than six months after a clinical cure of subacute bacterial

endocarditis. The support for this contention, however, is not altogether tenable. The fact that such good results were obtained even in the patients in whom cure was achieved during pregnancy indicates that this is not necessarily a sound indication. On the other hand, the over-all results lend some support to the contention of Heffernan and Lynch,[2] who, in a paper that appeared in the same issue, point out that continuous improvements in modern obstetric management and in the therapy and better understanding of many diseases have rendered most of the older indications for therapeutic abortion obsolete and untenable.

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CHIMERA, 1953

A CHIMERA, according to *Webster's International Dictionary*, that fount of wisdom concerning all things semantic in the English of America, is a she-monster, vomiting flame and having a lion's head, a goat's body and the tail of a dragon. Variations may permit a lion's head and body and a supernumerary goat's head rising from the back.

Usage has extended the definition to include any such imaginary monster or other figment of the imagination; it is not to be confused with the zo-ological chimaera, spelled with the diphthong. This word of science refers to any of a group of marine elasmobranchs having a tapering tail and being, perhaps, chimerical in appearance. Anatomically, chimera has the specific definition of "a monster fetus composed of two or more parts of different genetic origin."

According to American usage, which occasionally reveals an unexpected precision, Dunsford and his associates[1] have used the imaginative word in an unaccustomed manner in classifying as "a human blood-group chimera" a young woman whose case they have reported. This twenty-five-year-old mother, a dizygotic twin whose conceptual partner, a male, had died at the age of three months, was found to possess a mixture of A_1 and O blood cells, with only part of the cells agglutinating when the sample was mixed with anti-A serum.

The fact that the O cells are the indigenous property of the subject was established by the demonstration of O (H) antigen in her saliva, and a lack of A antigen.

It is known that each of nonidentical cattle twins carries a double set of red blood cells and, incidentally, that the female is usually sterile when the twins are of opposite sex.[2] The subject reported by Dunsford et al. is the first human being shown to have two blood groups — her own and that of her twin. The assumption is that viable erythroblasts from the twin traversed a chorionic anastomosis and became implanted in her bone marrow.

In such cunning ways are such chimeras fashioned.

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GENERAL PRACTITIONER OF THE YEAR

IN this age of promotions of one kind or another, it is often difficult to differentiate those made up of nothing but sound and those genuinely conceived and honestly presented.

From past examples of the nationwide promotion of the American Medical Association's annual General Practitioner of the Year award — one of which this section witnessed first hand when the late Dr. Dean Sherwood Luce won both state and national honors — it is apparent that this is a genuine promotion taken to heart by the general public.

This year, the Executive Committee of the Massachusetts Medical Society has designated Dr. James Greenleaf Simmons, of Fitchburg, as the General Practitioner of the Year, and his name will be submitted to the Board of Trustees of the American Medical Association when that body meets in St. Louis in December. Whether or not Dr. Simmons wins the national award is of no particular import to his associates in the Worcester North District Medical Society who placed his name in nomination, or to the fellows of the Massachusetts Medical Society in general.

His friends and colleagues are content that after twenty-five years of practice in Fitchburg, he is at long last getting the kudos he deserves.

A personal friend of long standing, Harold F. Bergstresser, of Fitchburg, sums up the qualities that endeared Dr. Simmons to his patients, friends and professional associates:

> Dr. Simmons has an infinite graciousness that can come only from an inward peace and kindness. He is so unassuming that few realize that besides a large practice, which he handles with enviable skill and competence, he has been concurrently president of the State Academy of General Practice, active in the State Medical Society, a member of the Board of Directors of the Massachusetts Medical Service, the head of an important segment of the Burbank Hospital Fund Drive and a participant in many civic activities.
>
> In addition, he is a man of great moral strength and leadership, clean habits and high principles. These qualities, combined with professional skill, sound business judgment and a keen insight into the social and human needs of the Community, set him apart as a great man.

Thus is James Greenleaf Simmons, M.D., involved, much against his will, in a promotion that will not only point up his unselfish service to his community but also demonstrate to the public that, despite the over-play on specialization, general practice is still the keystone of medicine and is continually attracting to its fold the kind, considerate and skilled practitioner Dr. Simmons so well represents.

Disease is self-limited. Its tendency, in nineteen out of twenty cases, is toward recovery.
Boston M. & S. J., *November 2, 1853*

MASSACHUSETTS MEDICAL SOCIETY

MASSACHUSETTS MEDICAL BENEVOLENT SOCIETY

In view of the close relations that have always existed between the Massachusetts Medical Society and the Massachusetts Medical Benevolent Society, and the action taken by the Council in 1948 in establishing a Committee on Benevolence, the following résumé of the activities of the Massachusetts Medical Benevolent Society is called to the attention of the fellows.

ROBERT W. BUCK, *Secretary*

That benevolence should begin at home was the conclusion reached at a meeting of a group of physicians belonging to the Boston Medical Book Club nearly a hundred years ago (in December, 1856). They were concerned at the plight of some doctors and their families who were in need of financial assistance. Believing that it was their duty and privilege to come to the aid of these less fortunate persons before they became a public charge, they organized the Massachusetts Medical Benevolent Society, which met as such for the first time on March 19, 1857. The Society was incorporated under the laws of the Commonwealth of Massachusetts on March 8, 1871, and has served a useful purpose throughout its existence.

Rapidly after the organization of the Society, a large proportion of the doctors in and about Boston became members, and from their dues, which were originally $2 a year, and donations and bequests a steady but moderate income was developed. This income has slowly increased. There was a great increase in 1894, when the Ashton Fund was formed under the will of Elisha J. Ashton, who directed that one-twentieth of the income from this trust be given annually to the Society. Other bequests and savings have gradually built up our capital fund so that we now have investments worth slightly more than $100,000, and in 1952 we had an income from all sources — not including the Massachusetts Medical Society, but including $3000 from the Ashton Fund — of $6731. As recently as ten years ago our capital funds were worth $62,000, and our income was $4400 per year. The increase in the capital was not from savings or bequests, but from the appreciation of the stocks invested with the advice of the Old Colony Trust Company. The increase in income was partly from an increase in the distributions from the Ashton Fund ($1000) and from an increase in the returns from investments ($1700), but not at all from any increase in dues and gifts.

In 1948 the Massachusetts Medical Society itself formed a Committee on Benevolence and started a benevolence fund. In 1949 various sums began to be allotted to the Massachusetts Medical Benevolent Society from this fund to a total of $14,000, which has allowed the Benevolent Society to carry out a needed increase of the amounts given in aid and to increase its cash balance by a small amount.

During the fiscal year ending October 17, 1952, the sum of $8546 was given to 26 different beneficiaries.

Recorded confidentially in the archives of the Society are the names of the beneficiaries through the years. Not published, for obvious reasons, are the poignant stories that explain the need for help. One or more of the officers have heard the stories and, when necessary, have checked with social agencies or have been informed by them in the first place. Help is often forthcoming from several sources, including our own. In 1873 there were 9 beneficiaries, who received quarterly grants of $15; money at that time was, of course, much more valuable than now. By 1878 the number of beneficiaries had doubled. In 1893 there were 16 on the list, each of whom received $20 or $25 quarterly. Nine of these were women (widows or daughters of deceased physicians), and 2 were doctors themselves; the ratio has continued much the same since. In 1913 there were 22 beneficiaries, receiving from $25 to $75 quarterly (more than half received $50). In 1933 there were 19 beneficiaries, receiving from $25 to $100 quarterly (14 received $100). There were 26 beneficiaries in 1952. No longer are the same amounts given to each beneficiary, but the amounts vary with the need. The stipends now given quarterly usually vary from $15 to $300, and frequently continue throughout the rest of the life of the recipient. One widow received aid for fifty years, dying in 1950 at the age of ninety-six.

Beyond the money given the beneficiaries the expenses of the Society are very small and are spent only for stationery, postage, the Treasurer's bond and custodial and advisory charges from the bank for the care of our securities.

The ultimate source of strength in the Society is its membership. In the nineteenth century a large proportion of

the doctors in Boston and some doctors from other parts of the state belonged. We now have several hundred members but the proportion of members to nonmembers among eligible doctors is smaller. Our members are divided into two classes. The first consists of life members, who have paid $100 for this membership; they have paid it all at once or in yearly installments. The members other class are called active members and pay $5 a year. After life membership has been achieved some members continue to make contributions.

It is now highly desirable to increase the number of members so that we can again become independent of help from the Benevolence Fund of the Massachusetts Medical Society. Our bylaws provide that only members of the Massachusetts Medical Society in good standing are eligible for membership.

The Articles of the Association and the bylaws were published in pamphlet form by Thomas Groom and Company, printers in Boston, in 1892 and again in 1929. The last revision of the bylaws was on October 24, 1940. Previous articles concerning the Society were published in the *New England Journal of Medicine* (Vol. 206, pp. 573 and 574, 1930, by Drs. R. M. Green and R. I. Lee.)

We hope that this brief statement may arouse a sympathetic interest in the Massachusetts Medical Benevolent Society throughout the State and that it may result in an increased membership All interested fellows are asked to write to Dr. Joseph S. Barr, secretary of the Society, 234 Marlboro Street, Boston 15, Massachusetts.

CHARLES C. LUND, M.D.
PAUL D. WHITE, M.D.

DEATHS

AGUGLIA — Vincent B. Aguglia, M.D., of Boston and Watertown, died on October 8. He was in his fifty-sixth year.

Dr. Aguglia received his degree from Middlesex University School of Medicine in 1923.

He is survived by his widow, a daughter and three brothers.

CAMPBELL — Harry L. Campbell, M. D., of Medford, died on October 14. He was in his forty-ninth year.

Dr. Campbell received his degree from Tufts College Medical School in 1938. He was a member and former president of the staff of the Lawrence Memorial Hospital, physician for the Medford public schools and president of the Medford Medical Society.

He is survived by his widow, five sons, a daughter and a sister.

CHAMBERLIN — Donald T. Chamberlin, M.D., formerly of Boston, died on October 1. He was in his forty-ninth year.

Dr. Chamberlin received his degree from Washington University School of Medicine in 1930. He was a fellow of the American Medical Association and the American College of Physicians, and a member of the American Gastro-Enterological Association and the American Gastroscopic Society. He was formerly a member of the staffs of the Lahey Clinic and the New England Baptist, Boston City, New England Deaconess, Malden and Newton-Wellesley hospitals.

He is survived by his widow, his mother and an aunt.

GILPATRICK — Roy H. Gilpatrick, M. D., formerly of Boston and Nantucket, died on October 10. He was in his seventy-seventh year.

Dr. Gilpatrick received his degree from Harvard Medical School in 1905. He was a fellow of the American Medical Association.

He is survived by his widow.

JOHNSTON — William Johnston, M. D., of Dorchester, died on October 15. He was in his eighty-fourth year.

Dr. Johnston received his degree from McGill University Faculty of Medicine in 1897. He was a fellow of the American Medical Association.

He is survived by his widow, a son and two daughters.

MILES — Charles G. Miles, M.D., of Brockton, died on October 3. He was in his seventy-fourth year.

Dr. Miles received his degree from the College of Physicians and Surgeons of Baltimore in 1908. He served on the Brockton school committee and as city physician, and was formerly president of the Plymouth District Medical Society.

MILLER — Edward A. Miller, M. D., of Natick and Sagamore Beach, died on October 14. He was in his eighty-second year.

Dr. Miller received his degree from Boston University School of Medicine in 1899.

He is survived by his widow.

RISOLI — Joseph E. Risoli, M.D., of Tewksbury, died on July 30. He was in his forty-first year.

Dr. Risoli received his degree from Middlesex School of Medicine in 1943. He was on the staff of St. John's Hospital.

He is survived by his widow and a son.

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

COMMUNICABLE DISEASES IN MASSACHUSETTS FOR SEPTEMBER, 1953

Résumé

Disease	September 1953	September 1952	Seven-Year Median
Chancroid	2	1	2
Chicken pox	95	83	106
Diphtheria	1	0	7
Dog bite	1064	1105	985
Dysentery, bacillary	94	24	9
Encephalitis, infectious	0	0	2
German measles	58	39	56
Gonorrhea	191	217	292
Granuloma inguinale	0	0	0
Hepatitis, infectious	97	54	71
Lymphogranuloma venereum	0	0	1
Malaria	2	23	7
Measles	24	62	97
Meningitis, meningococcal	6	5	3
Meningitis, Pfeiffer bacillus	1	2	2
Meningitis, pneumococcal	3	0	1
Meningitis, staphylococcal	0	0	0
Meningitis, streptococcal	0	0	0
Meningitis, undetermined	2	8	3
Mumps	275	156	173
Poliomyelitis	178	156	147
Salmonellosis	18	13	11
Scarlet fever	57*	61	92
Syphilis	156	126	155
Trichinosis	1	5	4
Tuberculosis, pulmonary	184	189	200
Tuberculosis, other forms	10	6	9
Typhoid fever	3	2	1
Undulant fever	3	2	1
Whooping cough	186	109	285

*Includes streptococcal sore throat.
†Four-year median.

Comment

Diseases below the seven-year median were chicken pox, diphtheria, measles, scarlet fever and whooping cough.

One case of diphtheria was reported for the month of September. This brings the total for the year to 21, a very low figure.

The 24 reported cases of measles make this the lowest figure for the month of September since 1906.

With but one exception, September, 1952, the 186 cases of whooping cough reported represent the lowest figure for the month of September in the history of this state.

Diseases above the seven-year median were bacillary dysentery, infectious hepatitis, mumps and salmonellosis.

Bacillary dysentery continued at its high level. The 94 cases reported make this the highest figure for any month since December, 1943. The disease has been confined for the most part to the larger metropolitan areas of the state.

Though the incidence of salmonellosis in September was higher than the seven-year median for this month, it was somewhat lower than that in the two preceding months of this year.

Geographical Distribution of Certain Diseases

The following diseases were reported from the communities named:

Actinomycosis: Dalton, 1.
Anthrax: Needham, 1.

Diphtheria: Swampscott, 1.
Dysentery, amebic: Malden, 1.
Dysentery, bacillary: Boston, 42; Brockton, 4; Burlington, 1; Chelsea, 1; Danvers, 7; Lawrence, 4; Lowell, 2; Millbury, 1; Milton, 1; Salem, 1; Somerville, 1; Springfield, 7; Tewksbury, 14; Waltham, 3; Worcester, 5; total, 94.
Hepatitis, infectious: Andover, 1; Boston, 30; Brockton, 4; Cambridge, 1; Dedham, 1; Fall River, 2; Falmouth, 2; Fort Devens, 2; Framingham, 1; Gardner, 2; Lowell, 1; Lynn, 3; Marion, 1; Milford, 1; Millbury, 2; Natick, 2; New Bedford, 1; Newton, 4; Northampton, 1; Northboro, 1; Northbridge, 9; Paxton, 1; Revere, 1; Shrewsbury, 2; Somerville, 1; Springfield, 1; Sutton, 2; Taunton, 1; Waltham, 1; Weston, 1; Westminister, 1; Worcester, 10; Wrentham, 3; total, 97.
Lymphocytic choriomeningitis: West Bridgewater, 1.
Malaria: Fitchburg, 1; Freetown, 1; total, 2.
Meningitis, meningococcal: Beverly, 1; Boston, 4; Worcester, 1; total, 6.
Meningitis, Pfeiffer bacillus: Holyoke, 1; Middleton, 1; total, 2.
Meningitis, pneumococcal: Attleboro, 1; Framingham, 1; Worcester, 1; total, 3.
Meningitis, undetermined: Cambridge, 1; Haverhill, 1; total, 2.
Poliomyelitis: Acushnet, 1; Adams, 1; Agawam, 1; Amherst, 3; Arlington, 3; Ashland, 1; Athol, 4; Auburn, 2; Bedford, 3; Belmont, 1; Beverly, 1; Boston, 9; Brockton, 1; Brookline, 3; Cambridge, 1; Charlton, 2; Chicopee, 2; Cohasset, 1; Dartmouth, 2; Dedham, 2; Duxbury, 2; Fall River, 2; Falmouth, 1; Framingham, 1; Granby, 1; Greenfield, 4; Hanover, 1; Hanson, 1; Haverhill, 7; Holbrook, 1; Holyoke, 1; Huntington, 1; Ipswich, 1; Lenox, 1; Lexington, 4; Lynn, 1; Malden, 1; Mattapoisett, 1; Medford, 5; Merrimac, 1; Methuen, 1; Middleborough, 1; Middleton, 1; Milton, 3; Montague, 2; Natick, 1; Needham, 4; New Bedford, 3; Newton, 6; North Adams, 2; Palmer, 4; Pembroke, 1; Pittsfield, 1; Plainville, 1; Quincy, 2; Reading, 1; Revere, 2; Salem, 2; Sherborn, 1; Shirley, 1; Somerville, 10; South Hadley, 1; Springfield, 10; Taunton, 4; Truro, 1; Walpole, 1; Waltham, 1; Ware, 1; Wareham, 1; Watertown, 2; Wayland, 2; Wellesley, 2; West Boylston, 1; West Springfield, 2; Westborough, 1; Westminster, 1; Weston, 1; Weymouth, 1; Wilmington, 1; Winchester, 1; Winthrop, 1; Worcester, 10; total, 178.
Salmonellosis: Boston, 1; Lowell, 1; Manchester, 1; Medford, 1; Melrose, 3; Revere, 3; Sharon, 1; Taunton, 3; Wakefield, 1; Waltham, 1; Weymouth, 2; total, 18.
Tetanus: Cambridge, 1.
Trichinosis: Winthrop, 1.
Typhoid fever: Adams, 1; Braintree, 1; Fall River, 1; total, 3.
Undulant fever: Lynn, 1; Malden, 1; Reading, 1; total, 3.

CORRESPONDENCE

DIABETES FAIR

To the Editor: The purpose of the New England Diabetes Fair, a notice of which is published elsewhere in this issue of the *Journal*, is to educate and stimulate interest in the public concerning diabetes and its detection. There will be exhibits illustrating various phases of diabetes and its management. These will include displays concerning pharmaceuticals, dietetics, social and public service aids, diabetes camps, insurance for diabetic persons, diabetes detection in certain communities and nursing care in the hospital and home. There will be books and pamphlets on diabetes and charts illustrating medical and surgical features of diabetes. Motion pictures will be presented throughout the day. Owing to the increased demand of last year for more lectures, there will be lecture programs in the afternoon and evening of both days featuring panel discussions on diabetes.

X-ray examinations of the chest will be made on those who desire it. Facilities will be provided for urine sugar and blood sugar testing to be made while the subjects wait and watch the procedure. The blood testing at this fair is done as an educational procedure so that the public may see methods.

The primary purpose of the fair is to stimulate the public at large to go to the family doctor and have a urine test for sugar and a blood test if necessary. A total of 1011 persons last year learned of the Fair through newspapers (371), friends and relatives (139), television (136), radio (114), 75,000 leaflets (88), billboards posted in front of Horticultural Hall (76), doctors (36), nursing and dietetic schools (32) and hospital and other posters (19).

The purpose of this communication is also to encourage doctors in general to test the urine freely for sugar because, after all, this is a simple test to perform. There have been reports that doctors have not been set up to do urine tests and, consequently, have deprived patients of early diagnosis of the disease.

HARRY BLOTNER, M.D., *Chairman*
Committee on Diabetes Detection
New England Diabetes Association

Boston

THE AUTOCRAT GOES TO BANGOR

To the Editor: In these days of constant travel hither and yon for purposes of lecturing, the following letter from days gone by may be of interest to your readers (written by Dr. Oliver Wendell Holmes in October, 1852, it is reproduced in *Bangor Historical Magazine*, Vol. 4. No. 12, June, 1889):

To Mr. J. W. Porter who was "chairman of a committee to procure lecturers in a course and this letter was in answer to one written to Dr. Holmes."

Bangor, Maine

Dear Sir

My terms for a lecture where I stay over night are these: Fifteen dollars and my expenses; a room with a fire in it in a public house, and a mattress to sleep on, not a feather bed. As you write in your individual capacity I tell you at once all my habitual exigencies. I am afraid to sleep in a cold room, I can't sleep on a feather bed, I will not go to private houses, and I have figured on the sum mentioned as what it is worth to *me* to go away for the night to places that can not pay more.

Yours truly
O. W. HOLMES

JOHN P. MONKS, M.D.

Cambridge, Massachusetts

NURSING IN MENTAL HOSPITALS

To the Editor: In the September 24 issue of the *Journal* there is an excellent editorial on mental health in America. The last two paragraphs contain statements concerning the shortage of psychiatrists and nurses. These statements are true. The last sentence in the editorial is very discouraging. It reads, "Such a marked disproportion is probably offset by a lower concentration of nursing care required in the hospitals for mental disease." One becomes accustomed to hearing such remarks in legislative halls, but to have it occur in the *New England Journal of Medicine* indicates that we have failed to educate our colleagues regarding the needs in mental hospitals, and without their understanding, it is difficult to see how the public and the members of the governing body can be made to appreciate the problem.

I assume that such a statement is based on the fact that we have relatively few bed patients as compared to the ordinary general hospital. The fact that many of our patients are ablebodied and able to walk to the cafeteria, help with certain light duties, both in and outside the building, reduces the number of dietary helpers, ward maids, yardkeepers and so forth required. These very patients, if they are to recover, require a high concentration of skilled nursing care. In some of our hospitals, patients who live en masse with inadequate nursing care get very deteriorated and almost animal like. Private patients who can afford one or more nurses in attendance at all times may be equally psychotic, but their behavior and habits never deteriorate to the same degree.

It probably is not financially possible to give really adequate nursing care to the large number of patients in our public institutions. If we had the money, we could not hire graduate nurses because, as the editorial correctly pointed out, they are not available. We are forced to use practical nurses and attendants, many of whom, through formal training or apprentice training in our institutions, become skilled in handling these cases and

carry the bulk of the work. These are facts of life that we must adjust ourselves to, but let us not assuage our conscience by assuming that this is the best care possible or all that is really desirable.

Boston

JACK R. EWALT, M.D.
Massachusetts Commissioner of Mental Health

BOOK REVIEW

Biologie, Pathologie und Therapie der Gelenke Dargestellt am Kniegelenk. By Dr. Arnold Sonnenschein, assistant, Orthopadischen Station der I. Chirurgischen Universitätsklinik, Vienna. 8°, cloth, 496 pp., with 219 illustrations. Basel, Switzerland: Benno Schwabe and Company, 1952.

As a protégé of Schöbauer, Adolph Lorenz and Wolf-Heidegger, Sonnenschein is in a position to speak with assurance upon the subjects included in the title of this book.

In recent years several books have been written about lesions or diseases of the knee joint, but none have possessed more authority than this volume. Within these 496 pages the author has presented a description of the anatomy, histology, normal mechanics, pathology, examination, diseases, injuries and differential diagnoses of knee-joint disturbances, and the treatment of the various injuries or diseases of the knee joint. This practical book should be in the library of every orthopedic surgeon and pathologist.

EDWARD L. COMPERE, M.D.

BOOKS RECEIVED

The receipt of the following books is acknowledged, and this listing must be regarded as a sufficient return for the courtesy of the sender. Books that appear to be of particular interest will be reviewed as space permits. Additional information in regard to all listed books will be gladly furnished on request.

The Normal Child: Some problems of the first three years and their treatment. By Ronald S. Illingworth, M.D. (Leeds), F.R.C.P. (Lond.), D.P.H., D.C.H., professor of child health, University of Sheffield, and pediatrician to the Children's Hospital Unit and the Jessop Hospital for Women, United Sheffield Hospitals. 8°, cloth, 342 pp., with 64 illustrations. Boston: Little, Brown and Company, 1953. $6.00.

Dr. Illingworth discusses the problems, besides disease, that arise in the normal child during its first three years. They include feeding, physical condition, development and behavior, including anorexia, sleep and psychologic reactions. The book is based on the author's experience, and is written for the pediatrician or physician. There is a bibliography of 8 pages, and a good index. The book was published in England by J. and A. Churchill, Limited. The publishing is excellent.

Taschenbuch der praktischen Medizin. Edited by J. Kottmaier. Second revised edition. 12°, cloth, 937 pp. Stuttgart: Georg Thieme, 1953. DM 29.70. (Distributed by Grune and Stratton, New York.)

In this second edition a handbook of medicine has been revised and brought up to date. Internal medicine and all the specialties are covered by prominent German specialists. There is a valuable list of drugs and proprietaries of 77 pages, most useful for reference purposes. There is also a comprehensive index.

Advances in Tuberculosis Research. Vol. 5. By H. Birkhauser and D. Block. 8°, cloth, 370 pp., with 39 illustrations and 19 tables. Basel and New York: S. Karger, 1952. Swiss francs 46.80.

This fifth volume of a valuable series of progress reports on various aspects of tuberculosis research includes articles on the lipids of the tuberculosis baccillus, the quality of the radioscreen picture, the hemagglutination reaction and conditioned hemolysis, theosemicarbazon treatment, intrathoracic lymphnode tuberculosis and the role of the bronchi in the causation and dissemination of pulmonary tuberculosis. All these articles review the recent literature, and bibliographies are appended to the various papers. There is an index of authors and a composite index by authors of the contents of the five volumes so far issued. The complete series should be in all collections on tuberculosis.

A Manual of Clinical Allergy. By John M. Sheldon, M.D., professor of internal medicine, University of Michigan Medical School, assistant to the chairman of the Department of Postgraduate Medicine, physician in charge of University of Michigan Allergy Clinics, and director of the Montgomery Allergy Research Laboratory; Robert G. Lovell, M.D., instructor in internal medicine, University of Michigan Medical School; and Kenneth P. Mathews, M.D., assistant professor of internal medicine, University of Michigan Medical School. 8°, cloth, 413 pp., with 27 illustrations, 15 tables and 15 plates. Philadelphia: W. B. Saunders Company, 1953. $8.50.

This manual is intended for the physician interested in the treatment of allergy patients or in establishing an allergy practice. Emphasis has been placed on the practical features of sound allergy work-up and safe and medically acceptable treatment. The subject is covered in a systematic manner. There are special chapters on the immunochemical aspects by Ross B. Pringle, Ph.D., on drug allergy by Dr. Barney A. Credille, and on pollen, fungus and mold identification by O. C. Durham, F. L. McKay, C. C. Christensen, Ph.D., and M. A. Swaebly, B. S. Special consideration is given to patch testing. Appendixes provide information on office planning, standard technic for atmospheric pollen testing by the gravity method, preparation of allergenic extracts for testing and treatment and the bacterial vaccine. There is a good index, and the publishing is excellent in every way. The book should prove of value to all persons interested in the subject.

Die Psychiatrie des Morbus Addison insbesondere seiner chronischen Formen. By W. A. Stoll, senior physician, Psychiatrischen Universitätsklinik, Burghölzlik. 8°, cloth, 143 pp., with 4 illustrations. Stuttgart: Georg Thieme, 1952. DM 18.- (Distributed by Grune and Stratton, New York.) *Sammlung psychiatrischer und neurologischer Einzeldarstellungen.* Edited by K. Conrad, W. Scheid and H. J. Weitbrecht.

This special monograph is concerned with psychic disturbances in Addison's disease, or insufficiency of the adrenal glands, especially in the chronic type. The literature is evaluated, and there is an extensive index of 14 pages and an author index. The monograph should be in collections on mental disorders and endocrinology.

Psychoanalysis and Social Work. Edited by Marcel Heiman, M.D. With a preface by M. Ralph Kaufman, M.D. 8°, cloth, 346 pp. New York: International Universities Press, Incorporated, 1953. $5.00.

This composite book is the joint work of fifteen contributors. The text is divided into two parts: theory and practice. Lists of references are appended to the chapters, and there is an index.

Grundriss der Elektrokymographie: Phasenanalyse und Raumkymographie des Herzens. By Priv.-Doz. Dr. K. Heckmann. 8°, paper, 36 pp., with 54 illustrations. Stuttgart: Georg Thieme, 1952. DM 6.60. (Distributed by Grune and Stratton, New York.)

This outline presents the essentials of electrokymography. The electrokymographic curves in healthy and diseased hearts and phase analysis of the heart are discussed in two sections. There is a short list of references and a good index.

Der Kaffee und das Coffein. By Dr. Med. Rolf Ulrich, officer of health. 8°, paper, 68 pp. Stuttgart: Georg Thieme, 1953. DM 2.70. (Distributed by Grune and Stratton, New York.)

This small monograph discusses coffee and caffein and their effects upon the body in health and disease.

Rontgen, Radium and Radioisotope Therapy. By A. J. Delario, M.D., head of therapeutic radiology, St. Joseph Hospital, Pater-

son, New Jersey. 8°, cloth, 371 pp., with 65 illustrations and 155 tables. Philadelphia: Lea and Febiger, 1953. $7.50.

The author for years collected a large amount of practical material on therapeutic radiology and now presents it in book form. The whole field of the subject is covered, including chapters on the physics of the various rays. There is a bibliography of 320 items and a good index. The publishing is excellent. The book should prove of value to radiotherapists.

Das Inselsystem des Pankreas: Entwicklung, Histobiologie und Pathophysiologie. Mit besonderer Berücksichtigung des Diabetes mellitus. By Helmut Ferner, professor, Anatomischen Institut der Universität Hamburg. 8°, cloth, 186 pp., with 54 illustrations. Stuttgart: Georg Thieme, 1952. DM 29.70. (Distributed by Grune and Stratton, New York.)

Dr. Ferner discusses the islands of Langerhans, with particular reference to diabetes mellitus. The first chapter which briefly considers the two cell types found in the islands, is followed by a discussion of modern color methods in the differentiation of the island cells, the development of the island system in man and in the adult, comparative cytology and diabetes. The pertinent literature is reviewed, and there is a bibliography of 12 pages. The publishing is excellent. The monograph should be in all collections on the subject.

Röntgenuroskopie: Nierenbecken und-kelche, Harnleiter, Blase, Harnröhre. By Dr. Med. Habil. G. W. Günther 4°, cloth, 45 pp., with 86 illustrations. Stuttgart: Georg Thieme, 1952. DM 13.50. (Distributed by Grune and Stratton, New York.)

The author deals with roentgenuroscopy of the kidney, pelvis and capsule, the ureter, bladder and urethra. The small pamphlet is a semi-atlas. The illustrations are excellent.

Die Alkoholhalluzinosen. By Dr. Med. G. Benedetti. 8°, cloth, 58 pp., with 17 tables. Stuttgart: Georg Thieme, 1952. DM 7.50. (Distributed by Grune and Stratton, New York.) *Sammlung psychiatrischer und neurologischer Einzeldarstellungen.* Edited by K. Conrad, W. Scheid and H. J. Weitbrecht.

Dr. Benedetti discusses alcoholic hallucinations in their various aspects on the basis of a study of 113 cases. The pertinent literature is reviewed, and illustrative cases are interspersed throughout the text.

Die Neurose als Reifungsproblem (Konstitutionelle Grundlagen der Neurosenentwicklung). By Dr. Wolfgang Kretschmer, jun. 8°, paper, 92 pp., with 3 tables. Stuttgart: Georg Thieme, 1952. DM 10.80. (Distributed by Grune and Stratton, New York.) *Sammlung psychiatrischer und neurologischer Einzeldarstellungen.*

This monograph considers the neuroses as a maturation problem and the constitutional basis for the development of the neuroses. An analysis is made of a large number of cases, and case histories are inserted in the text.

Klinische und sprachwissenschaftliche Untersuchungen zum Agrammatismus. By Prof. Dr. Med. Fr. Panse, Dr. Phil. G. Kandler, Dozent Dr. Med. A. Leischner, Hirnverletzten-Institut des Landes Nordrhein-Westfalen in Bonn und Sprachwissenschaftliches Seminar der Universität Bonn. 8°, cloth, 72 pp. Stuttgart: Georg Thieme, 1952. DM 6.- (Distributed by Grune and Stratton, New York.) *Arbeit und Gesundheit, Neue Folge, Heft 48.*

The authors present in full a case of agrammatism, a special form of aphasia. The literature is discussed, and there is a bibliography of 84 references.

Mid-century Psychiatry: An overview. Edited by Roy R. Grinker, M.D., director of Institute for Psychosomatic and Psychiatric Research and Training, Michael Reese Hospital, Chicago. 8°, cloth, 183 pp., with 6 tables. Springfield, Illinois: Charles C Thomas, 1953. $5.50.

This composite book is made up of 13 articles presented in June, 1951, before the Institute of Psychosomatic and Psychiatric Research and Training of the Michael Reese Hospital, Chicago. Most of the papers deal with behavior and psychoanalysis. The book is well published and should be in psychiatric collections.

L'hérédité humaine. By Jean Rostand. 16°, paper, 126 pp., with 12 illustrations. Paris: Presses Universitaires de France, 1952.

This book on human heredity was designed for popular use. The author has written a number of other small books on biologic subjects.

Headaches: Their nature and treatment. By Stewart Wolf, M.D., professor of medicine, and head, Department of Medicine, University of Oklahoma School of Medicine; and Harold G. Wolff, M.D., professor of medicine (neurology), Cornell University Medical College. 12°, cloth, 177 pp., with 7 illustrations. Boston: Little, Brown and Company, 1953. $2.50.

This new book on headaches is intended for the general public. The combination of an internist and neurologist makes for a sound discussion of a difficult subject. The mechanism of head pain and the various types of headache, including migraine and the so-called "sinus" type, are dealt with in plain language. The book is well published and should prove useful to public and general libraries.

Gastric Cancer. By Alfred H. Iason, M.D., attending surgeon, Adelphi Hospital, director of surgery, Brooklyn Hospital for the Aged, surgeon, Manhattan General Hospital, and instructor in anatomy, New York Medical College and Flower Hospital. 8°, cloth, 316 pp., with 98 illustrations by Alfred Feinberg, instructor in medical illustration, Department of Pathology, Columbia University, College of Physicians and Surgeons. New York: Grune and Stratton, 1953. $7.50.

In this monograph the author has endeavored to summarize for the student, practicing physician and surgeon the literature on gastric cancer, to which he has added the results of his experience of the disease. The subject is covered systematically from anatomy to surgical treatment. There is a bibliography of 187 items and a good index. The publishing is excellent. The book should be in collections on the digestive system.

On Burns. Compiled and edited by Nathan A. Womack, M.D. 8°, cloth, 178 pp., with 8 tables and 7 illustrations. Springfield, Illinois: Charles C Thomas, 1953. $5.50. (Publication No. 165, *American Lecture Series.*)

This volume presents the papers read at the symposium held at Iowa City, May 4-6, 1951. Eleven papers were read on the care and treatment of burns and their complications.

NONCLINICAL NOTES

MEAD JOHNSON AND COMPANY AWARD

Dr. Thomas H. Weller, of Needham, and Dr. Frederick C. Robbins, of Cleveland, will be awarded one of the Mead Johnson and Company awards for studies of the development of tissue-culture method in the field of virus diseases. The award will be presented at the annual meeting of the American Academy of Pediatrics on October 8.

WEST ROXBURY VA HOSPITAL

The West Roxbury, Massachusetts Veterans Administration Hospital and Paraplegic Center, opened officially for admission of patients on October 15.

According to Dr. Rolland R. Gasser, manager, the newly-renovated hospital has beds for 153 paraplegic patients and 150 general medical and surgical patients.

First patients admitted were 135 paraplegic veterans who were transferred on October 15 from the Cushing VA hospital in Framingham.

NOTICES

ANNOUNCEMENT

Dr. Otto Kant announces the closing of his Worcester office at 27 Elm Street and the removal of his Boston office at 19 Bay State Road to 12 Bay State Road for the practice of psychiatry.

NEW ENGLAND DIABETES FAIR

The annual Diabetes Fair, sponsored by the New England Diabetes Association, will be held during National Diabetes Week on November 16 and 17 at Horticultural Hall, Boston, from 11 a.m. to 10 p.m.

Physicians, medical students, nurses, social workers, other interested groups and the public at large are invited to attend.

MASSACHUSETTS SOCIETY FOR RESEARCH IN PSYCHIATRY

The following meetings of the Massachusetts Society for Research in Psychiatry will be held at 8:15 p.m. on the dates indicated: November 4, at Boston University; January 6, at Ring Sanatorium; March 3, at Metropolitan State Hospital; and April 21, at Boston Psychopathic Hospital.

WARREN PRIZE LECTURES

The Warren Prize Lectures of the Massachusetts General Hospital on the subject "Biochemical Aspects of Infections," will be given by Dr. René J. Dubos, of the Rockefeller Institute for Research, at the Morse Auditorium, Museum of Science, Boston, at 4:30 p.m., on the following dates: Monday, November 9, Wednesday, November 11, Friday, November 13, Tuesday, November 17 and Thursday, November 19. All physicians, medical students and other interested persons are cordially invited.

AMERICAN PUBLIC HEALTH ASSOCIATION ANNUAL MEETING

The eighty-first annual meeting of the American Public Health Association will be held in New York City at the Statler and New Yorker hotels from November 9 to 13. A forum on world health and the American people is scheduled for the opening day, sponsored by the National Citizens Committee for the World Health Organization.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

The sixtieth annual meeting of the Association of Military Surgeons of the United States will be held at the Statler Hotel, Washington, D. C., November 9 through 11. Principal foreign countries will be represented by their leading medical scientists, and all phases of military and public-health medicine will be emphasized. Eligible reserve officers of the medical service may accumulate point credits for retirement by attending the scientific sessions of the meeting. All members of the medical, dental, nursing, pharmacy, veterinary and allied professions are invited to attend the meeting. Further information may be obtained from Winchell McK. Craig, M. D., President, Association of Military Surgeons of the United States, Armed Forces Institute of Pathology, Washington 25, D. C.

INTERNATIONAL ACADEMY OF PROCTOLOGY POSTGRADUATE TEACHING FUND

The International Academy of Proctology announces the establishment of a postgraduate teaching fund to provide gift subscriptions to the *American Journal of Proctology* for some of the largest hospital libraries in this country and abroad and thus to afford a continuing postgraduate course in proctology for the members of the hospital staffs.

SELECTIVE SERVICE INFORMATION

Operations Bulletin No. 102 of National Headquarters, Selective Service System, dated September 22, 1953, announces that the armed forces do not expect to levy a call for physicians or veterinarians on the Selective Service System for at least the remainder of fiscal year 1954. Likewise, it is doubtful if it will be necessary to call any dentists during this period.

Local boards are therefore requested to discontinue the processing of special registrants for physical examination and induction. Local boards are directed to cancel all outstanding orders to report for induction and orders to report for physical examination issued to special registrants except any outstanding orders to report for induction issued to special registrants who are delinquent and have been or will be reported to United States attorneys for prosecution.

Local boards shall continue to classify special registrants.

It is to be noted that this directive refers to calls made on the Selective Service System and does not include Reserve Officers who may be called during this period to meet the needs of the Services.

EXAMINATION FOR PUBLIC HEALTH SERVICE MEDICAL OFFICERS

A competitive examination for appointment of medical officers to the Regular Corps of the United States Public Health Service will be held on February 2, 3 and 4, 1954. Examinations will be held at a number of points throughout the United States, located as centrally as possible in relation to the homes of candidates. Applications must be received not later than December 24, 1953.

Application forms and additional information may be received from the Chief, Division of Commissioned Officers, Public Health Service, Department of Health, Education and Welfare, Washington 25, D. C.

SOCIETY MEETINGS AND CONFERENCES

October 31, November 7 and 21. Symposium on Industrial Nursing. Page 714, issue of October 22.

November 2–4. New England Postgraduate Assembly. Hotel Statler, Boston. Page ii, issue of October 22.

November 2 and 9. Fried Lectures. Page 634, issue of October 8.

November 2–December 21. Hartford Medical Society Program. Page 260, issue of August 6.

November 4–December 2. Course in child psychiatry (pediatric neuropsychiatry). Page 428, issue of September 3.

November 4, January 6, March 3 and April 21. Massachusetts Society for Research in Psychiatry. Notice above.

November 6 and 7. American College of Cardiology. Page 506, issue of September 17.

November 6–December 18. Boston Lying-in Hospital Journal Club. Page 672, issue of October 15.

November 9–11. Association of Military Surgeons. Notice above.

November 9–13. American Public Health Association. Annual meeting. Notice above.

November 9–25. Consultation Clinics for Crippled Children. Page 713, issue of October 22.

November 9, 11, 13, 17 and 19. Warren Prize Lectures. Notice above.

November 12–14. Annual Convention of the National Society for Crippled Children and Adults. Chicago.

November 16 and 17. New England Diabetes Fair. Horticultural Hall. Notice above.

November 18. Massachusetts Society of Examining Physicians. Page 546, issue of September 24.

November 19 and 20. Inter-Society Cytology Council. Page 170, issue of July 23.

December 6. American Academy of Dental Medicine. Page 170, issue of July 23.

February 2–4, 1954. Examination for Public Health Service Medical Officers. Notice above.

May 31–June 3. American Urological Association. Page xvii, issue of July 23.

September 12–15. Second International Congress of Cardiology. Page 44, issue of July 2.

September 16–18. American Heart Association. Annual Scientific Sessions. Page 44, issue of July 2.

District Medical Society

MIDDLESEX EAST

November 18.
January 20. (Combined with the Auxiliary.)
March 24.
May 12. Annual Meeting. (Harlow Dinner.)

Calendar of Boston District for the Week Beginning Thursday, November 5

Thursday, November 5

*8:00–8:45 a.m. Case Presentations. Joslin Clinic. Joslin Auditorium, New England Deaconess Hospital.
*8:30–10:00 a.m. Orthopedic Staff Conference. Boston City Hospital.
*9:00–10:00 a.m. Cardiac Grand Rounds. Main Amphitheater, Children's Medical Center.

(Notices concluded on page xv)